

2022



Furbearer Program Annual Report



Missouri Department of Conservation

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Welcome Letter

The Missouri Department of Conservation's Furbearer Program works to monitor and manage the state's furbearing species for the sustainable harvest by hunters and trappers, as well as for the enjoyment of outdoor recreationalists from Missouri and around the country. This is done with the help of the state's hunting and trapping community, volunteers who help run surveys and report sightings, and the financial support received from the one-eighth of one percent Conservation Sales Tax, permits sales and income generated by the fish and wildlife tourism. Missouri is fortunate to have a wide range of furbearing species. From the charismatic larger mammals like coyotes and bobcats to the small and rare long-tailed weasel, our natural areas contain many furbearers for us to enjoy.

We would like to thank everyone who has helped us in our efforts. Last year, bow hunters recorded furbearer sightings for over 60,000 hours to help compile our Archer's Index. We received reports of sightings of rare furbearer sightings of badgers, least weasels, long tail weasels, and mountain lions. Volunteers helped us with our state-wide Sign Station Surveys. Hunters and trappers provided teeth from harvested bobcats and otters to help monitor the populations.

With everyone's cooperation, we can enjoy seeing and harvesting our furbearing species in the state for generations to come.

Thank you!

-Missouri Department of Conservation Furbearer Program

Annual Highlights

- ✿ A river otter pilot study is set to begin in late-fall/winter 2023 to explore the use of a new tracking transmitter that could be used to estimate the annual survival and harvest rates of otters along with their habitat use. The results of this study will be used to help design a larger statewide river otter study that will be used to reevaluate current otter regulations and management.
- ✿ The ongoing mesocarnivore camera trapping study focusing on gray fox and spotted skunks had an additional ten spotted skunk detections in its second season of sampling. Some of the detections were in locations spotted skunks were observed in the first year of sampling. A final field season of sampling will occur in the Fall of 2023 in hopes of detecting more spotted skunks and gray fox in similar and new areas, to help build distribution models for the two species. We will also be using new camera boxes in an effort to detect more weasels and spotted skunks.
- ✿ A new record-weight furbearer was harvested during the 2022-2023 season, a raccoon from Worth Co that weighed 35 lbs.
- ✿ There are now over 100 confirmed mountain lion sightings across the state. Mountain lion information is generally no longer included in this annual report, but is provided along with general information about mountain lions on the MDC website ([Mountain Lion Reports | Missouri Department of Conservation](#)).
- ✿ Black bear information is no longer included in this annual report as a newly established Black Bear Annual Report is under development given the increase in bear numbers and activity throughout the state. Look for the first annual report in late 2023.
- ✿ There were no new wolf confirmations during this reporting period.
- ✿ Check the Department website for additional updates on projects and sightings.

Introduction

Missouri's wild fur market has been monitored annually since 1940, with some information dating back to 1934. Over time, tremendous fluctuations in the harvest of Missouri's primary furbearing species have been observed as both market and social trends changed. The Missouri Department of Conservation (MDC) monitors the fur market within the state using mandatory fur dealer transaction records, mandatory pelt registration of bobcats (since 1980) and river otters (since 1996), and information gathered at fur auctions. The information in this report is based on the harvest by both trappers and hunters.



The number of Fur Dealer Permits issued by MDC peaked at 1,192 during the 1945-46 trapping and hunting season. In 2022, MDC issued **29 Resident Commercial Fur Buyer Permits**, 3 less than was issued in 2021, and **7 Non-Resident Commercial Fur Buyer Permits**, 1 less than were issued in 2021.



Permits to harvest Missouri furbearers by trapping methods were first required in 1953. The number of issued Resident Trapping Permits peaked during 1980-81 at 13,248 and reached an all-time low in 2000-01 at 2,050 permits issued. During the 2021-22 trapping season, MDC issued **8,017 Resident and 393 Non-Resident Trapping Permits**. That is over a thousand more resident permits issued than the previous year.

The highest peak of total pelts harvested reached 834,935 in 1940-41 (over 70% were opossum and skunk pelts) and reached the second highest peak in 1979-80 at 634,338, when average raccoon pelt values were estimated at \$27.50. The economic value of harvested fur also peaked in 1979-80 when \$9 million worth of pelts were sold. Pelt values declined dramatically during the late 1980s and through the mid-1990s. As a result, the number of participants also fell to all-time lows. Despite a small peak in the fur market in the mid 2010's, the international fur market is at an all-time low due to declining prices, the disruptive Covid-19 pandemic, and the resulting world-wide recession. Even with

recent downward trends in trapping, the 2021-22 trapping season saw 63,401 animals harvested which is a 36% increase compared to the 2020-2021 trapping season (46,695) and a 53% increase from the 2019-2020 trapping season (41,498).

The first section of this annual report describes the methods used to annually monitor the status of furbearer harvest and population trends, which includes tracking furs harvested and sold, monitoring auction prices for common furbearing species, utilizing annual sign station surveys (which have been conducted in 25 counties every year since 1977) and the Archer's Index that are compiled from bowhunter observations (which have been done since 1983). For less common species, public reports of sightings play an important part in tracking frequency and locations of those species across the state.

In Section two, we break down trends in observation of each species based on the results from annual sign stations and archer indices. The use of long-term data sets allows for the comparison from year to year and more importantly the long-term trend of each species. In addition, we provide range maps and recent sightings of our rare furbearer species.

For more information about this report or about the furbearer species mentioned, please contact Nate Bowersock at Nathaniel.Bowersock@mdc.mo.gov or visit www.mdc.mo.gov.



SECTION I: Annual Furbearer Monitoring Methods



Fur Harvest and Auction Price Comparisons

Individuals interested in buying or selling fur in Missouri (i.e., fur dealers) must obtain a commercial permit from MDC. Permit requirements include maintaining and submitting records of all fur transactions (e.g., buying, selling, retaining inventory, etc.). Data collected from fur dealers provide MDC an estimate of furbearer harvest. Additionally, bobcat and river otter harvest numbers are gathered from mandatory pelt registration and tagging, as required by CITES for export outside the United States.

The Missouri Trappers Association (MTA) hosts fur auctions each year in the state of Missouri, providing opportunity to buy or sell harvested pelts. In the 2021-22 season, MTA hosted just one auction in February. Pelt prices are averaged from all fur sold, including green, finished, and damaged furs. This year's MTA auction prices saw some species increase in price while others decreased in price (Table 1).



Overall, average pelt prices increased by about 12% from last year (Table 2). All species showed an increase in average pelt prices except racoons, coyote, beaver and red fox. The largest gain in price from the previous year were opossum from \$1.52 in 2021 to \$2.91 in 2022 and otter from \$15.59 to \$27.97. Muskrat, gray fox, and skunk also saw substantial increases from 2021 prices. Fur auction prices are closely monitored because, as seen in each furbearer status, fur harvest closely correlates with fur prices set at auction. Although these increases will be good for trappers, the overall fur market remains down significantly from its peak with no immediate changes in the future.

Table 1. Furbearer harvest and pelt prices in Missouri 2019-2022.

Species	2021-22		2020-21		2019-20	
	Pelts sold ¹ or registered*	Pelt Prices from MTA Auctions ²	Pelts sold ¹ or registered*	Pelt Prices from MTA Auctions ²	Pelts sold or registered*	Pelt Prices from MTA Auctions
Raccoon	36,889	\$3.33	21,589	\$4.46	24,652	\$3.32
Opossum	1,607	\$2.91	949	\$1.52	782	\$1.32
Muskrat	7,828	\$4.61	8,256	\$3.62	3,635	\$2.63
Coyote	6,492	\$10.75	6,790	\$20.50	5,083	\$20.85
Beaver	6,425	\$8.14	4,457	\$8.79	2,124	\$6.98
Mink	509	(m) \$8.28 (f) \$7.00	203	(m) \$7.00 (f) \$0	135	(m) \$3.12 (f) \$1.56
Red Fox	795	\$11.24	402	\$11.53	481	\$8.24
Gray Fox	355	\$19.90	213	\$15.67	278	\$8.95
Striped Skunk	159	\$10.41	233	\$8.42	221	\$7.50
Badger	13	\$25.00	29	\$15.50	29	\$20.67
Bobcat*	1,303	\$46.01	2,065	\$43.55	2,520	\$21.47
River Otter*	1,026	\$27.97	1,509	\$15.59	1,558	\$20.10
Trapping permits issued	8,410		8,097		6,952	

¹ Number of pelts sold is based on reports received from 36 Fur Dealer Permittees.

² Pelt prices are averaged from all fur sold, including green, finished, and damaged furs.

* Bobcat and River Otter harvest numbers are based on CITES registration.

Table 2. Furbearer pelt prices in Missouri from the annual Missouri Trappers Association Fur Auction, February 26, 2022, Montgomery City, Missouri.

Species	2022 Summary		Change from 2021-2022	Change from 2012-2013 (Peak)	5-year average (2017-2022)
	Total Sold	Avg. Price			
Raccoon	1,453	\$3.33	-25.3%	-84.0%	\$4.78
Opossum	85	\$2.91	91.4%	132.8%	\$1.97
Muskrat	1,044	\$4.61	27.3%	-60.9%	\$4.23
Coyote	313	\$10.75	-47.6%	-51.7%	\$18.53
Beaver	164	\$8.14	-7.4%	-62.5%	\$8.92
Mink	26	\$7.64	9.1%	-68.2%	\$7.34
Red Fox	17	\$11.24	-2.5%	-71.3%	\$14.36
Gray Fox	5	\$19.90	27.0%	-42.7%	\$15.71
Striped Skunk	16	\$10.41	23.6%	220.3%	\$6.33
Badger	1	\$25.00	61.3%	6478.9%	\$24.57
Bobcat	34	\$46.01	5.6%	-60.2%	\$43.72
Otter	85	\$27.97	79.4%	-67.3%	\$25.71

* Change in Badger pelt price is artificially inflated because average pelt price in 2012-2013 was \$0.38 and very few pelts were sold.

Furbearer Sign Station Survey

Beginning in 1977, annual sign station surveys for furbearers have been conducted each September and October. The purpose of the survey is to collect population trend information for Missouri's furbearing species. Twenty-five routes are distributed throughout the state in 25 different counties. Routes consist of 5 segments with 10 sign stations per segment for a total of 50 stations per route. Each sign station is a 36-inch diameter circle of sifted soil, spaced 0.3 miles along gravel road shoulders. A fatty acid scent disc is placed in the center of each station as an attractant. Each station is operated for one night and evaluated the following day for visitation.

Each station is described as operable or inoperable by the observer, stations with tire tracks or those destroyed by a road grader were deemed inoperable. All operable stations were included in calculations of indices, regardless of track presence, but inoperable stations were not used for calculations. Tracks were identified within the 36-inch circle of the station. Occupancy of a station by a species was recorded, but not the number of individuals per species.



An example of a sign survey



Striped skunk tracks found in a sign

A total of 24 routes out of 25 (Figure 1) were completed in 2022 with a total of 1,072 operable stations out of a possible 1,250 stations. Inoperable stations were either destroyed with a road grader or had tire tracks in them. Fair weather in September and October allowed many of the surveys to be complete before inclement weather set in November. The most common species to visit stations were raccoons, opossums, coyotes, and deer which is similar to our results from 2021 (Figure 2). The least common were weasels, minks, muskrats, and bobcats. Non-mammalian visitors were primarily birds, such as crows and turkeys. Species specific population index trends from 1977 to

2022 based on the Furbearer Sign Station Survey are displayed in the species-specific sections of the report (Section II: Figures 5, 8, 11, 15, 16, 19, and 22). All species except for bobcats saw an increase in observations at sign stations this year, which are consistent with long term trends for most species, except both species of fox that have seen declines in observations over the years. Variations in observation of both fox species could be related to the fact that both species have very similar looking tracks that are difficult to differentiate between. Small mammal populations frequently see year to year changes depending on variables such as food abundance, predator population size and many other ecological variables. For management purposes, the long-term trends are the main indicator of a population's stability and there are no signs of alarming drops in these species.

Again this year, volunteers greatly assisted MDC staff to complete the surveys and we want to say thank you to all of our volunteers. Missouri Master Naturalists completed with four county surveys. Students from Northwest Missouri State University Wildlife Club completed the Worth County survey. Additionally, students from College of the Ozarks completed the Stoddard County survey and students from the Missouri Western State University Wildlife Society completed the Clinton County survey. Students from University of Central Missouri completed the Johnson County survey. An online training as well as in person training were provided to give specific instructions and provide wildlife track identification training. Volunteers were able to observe bobcat and fox prints along with more common species like raccoon and opossum. After volunteers first assisted in surveys in 2019, the expansion to use more volunteer help has greatly reduced the pressure on MDC staff to complete this large-scale survey. Their help has been greatly appreciated and we expect to continue to use volunteer help in future surveys.



MDC employee Sarah Guardia shows off one of her completed sign survey sites.



MDC employees Jen Wissman and Sarah Guardia prepare the area for a survey site.



Figure 1. Missouri's 8 zoological regions and counties where data were collected (blue); all counties with permanent transects were surveyed in 2021, except Johnson, Laclede and Ozark counties.

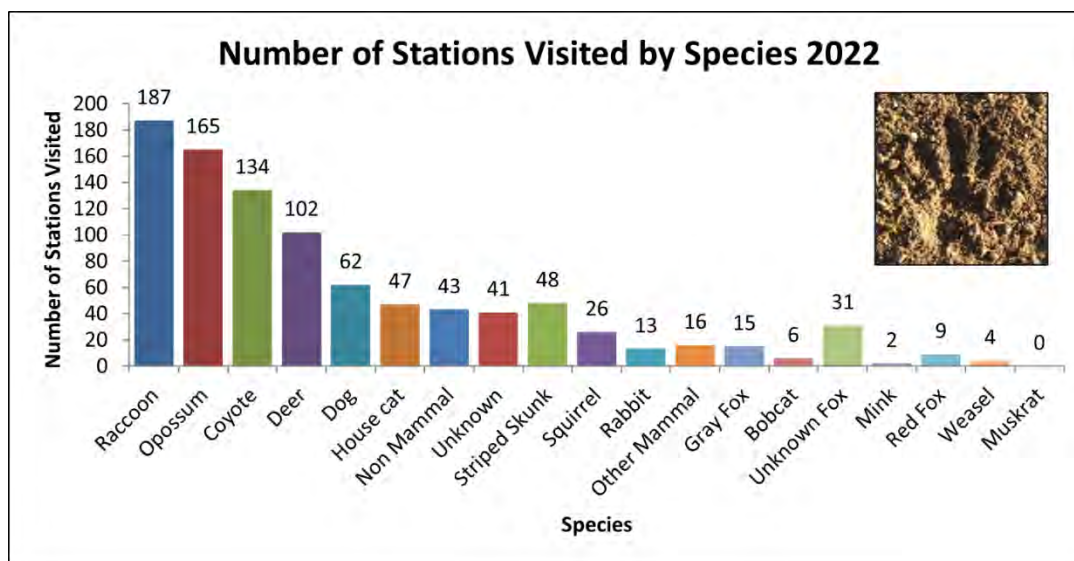


Figure 2. The number of stations visited by each mammal species, including non-furbearer species, out of 1,072 operable stations in the 2022 Missouri Furbearer Sign Station Survey.

Archer's Index of Furbearer Populations

Missouri Department of Conservation has conducted annual surveys of wildlife populations via the Bowhunter Observation Survey for 40 consecutive years (1983-2022). Each fall, several thousand archery deer and turkey hunters keep daily observation records of furbearers, other small game animals, deer, and turkeys. Archers volunteer through post-season surveys that are advertised in articles in the *Missouri Conservationist* magazine, during sign-ups at bowhunter club meetings and at other outdoor events. Archery hunters are asked to record the number of hours hunted, during both morning and evening hunts, and to use a standardized daily diary to record hours and sightings of wildlife. MDC uses the number of sightings of each species divided by the total number of hours hunted statewide to calculate a sighting index which is expressed as sightings per 1,000 hunter hours, called the Archer's Index.

Wildlife population indices calculated from archers' diaries are useful trend indicators for terrestrial wildlife species, such as coyotes, raccoons, foxes, and bobcats. Hunters are well distributed statewide with volunteers in all counties during most years. Bowhunters averaged 57,239 hours per year in the stand over the last 39 years and ranged from 30,990 hours in 1985 to 98,898 hours in 2017 (See Appendix A). In 2021, hunters spent **61,315 total hours** in the stand, which is the fourth highest recorded hours in the history of the survey.

Line graph representations of Archer's Indices for several furbearer species are shown in Section II by species. Based on these indices, long-term raccoon, coyote, and opossum observations suggest population increases. Striped skunk and bobcat populations are relatively steady, while observations suggest a downward trend for red and gray fox populations. Wildlife population indices are also depicted by county in Appendix B.



Monitoring and Demographic Assessment of River Otters and Bobcats in Missouri



River otter and bobcat are commonly sought-after furbearers in Missouri and there are no harvest level restrictions on either species. Various population indices suggest these species are not in danger of being over harvested. However, both bobcats and otters are CITES listed species, as their furs resemble other exotic endangered species, which has resulted in challenges being brought up to their harvest regulation in a several states. The MDC began a research project to document the sex and age of harvested animals and

measure harvest effort by trappers for these species. These and other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to generate abundance estimates and measure the impact of harvest and regulations on river otter and bobcat populations. Through SPR, the MDC will have a better understanding of the relationship between harvest rates and demographics of each species and will be able to better support current harvest regulations if challenged in the future.

In order to utilize SPR, MDC collects information on harvested river otter and bobcat through mandatory registration and voluntary tooth submission. Trappers are asked to remove one of the lower canine teeth from each river otter and bobcat they harvest so that age-at-harvest can be determined. Sex, date of harvest, method, and effort are collected when river otter or bobcat are tagged or registered with the Department.

A total of 326 lower canine teeth from the 2021-2022 harvest season and several teeth from previous harvest seasons (not depicted below) were collected and have been analyzed from both river otters and bobcats and sent for age analysis. The samples sent for aging consisted of 86 bobcat teeth (Figure 25) and 240 river otter teeth (Figure 29). Age data for later submission samples from 2021-2022 as well as samples from the 2022-23 season are not yet complete.



SECTION II: Missouri Furbearer Status 2021 - 2022

Raccoon Harvest and Population Trends

Raccoon harvest in 2021-2022 totaled 36,889 and included individuals harvested by both trapping and hunting methods (Figure 3). This year's harvest was up 70.87% from last year. Harvest is up 49.24% from two years ago even with a decrease in pelt prices. The 2021-22 season had the highest harvest numbers since 2014-15. The 2020-21 season resulted in the second lowest raccoon harvest since 1942. Pelt prices are down 25.3% from the previous year average. Average raccoon pelt prices are still down 84% from the last price peak in the 2012-13 season despite the large increase from year to year.

Population trends are derived from the Archer's Index Survey and the Sign Station Survey. For a detailed description of these surveys, see Section I of this report. During the hunting season of 2021, bowhunters submitted the number of raccoons observed during archery hunting hours and the number of hours spent afield. Based on these observations, the number of raccoons sighted per 1,000 hours decreased by 16% to



41.3 in 2020 from 49.3 in 2019 (Figure 4). Presence of raccoon tracks at furbearer sign stations increased to an index of 163.5 in 2021 from 190.8 in 2020 (Figure 5). Indices derived from Bow Hunter Observation Surveys and Sign Station Surveys indicate an overall increasing trend in raccoon population abundance. Short-term fluctuations are normal and expected due to the dynamic nature of raccoon populations. Based on harvest and pelt prices of previous trapping and hunting seasons, harvest pressure is expected to remain stable for the 2021-22 season.

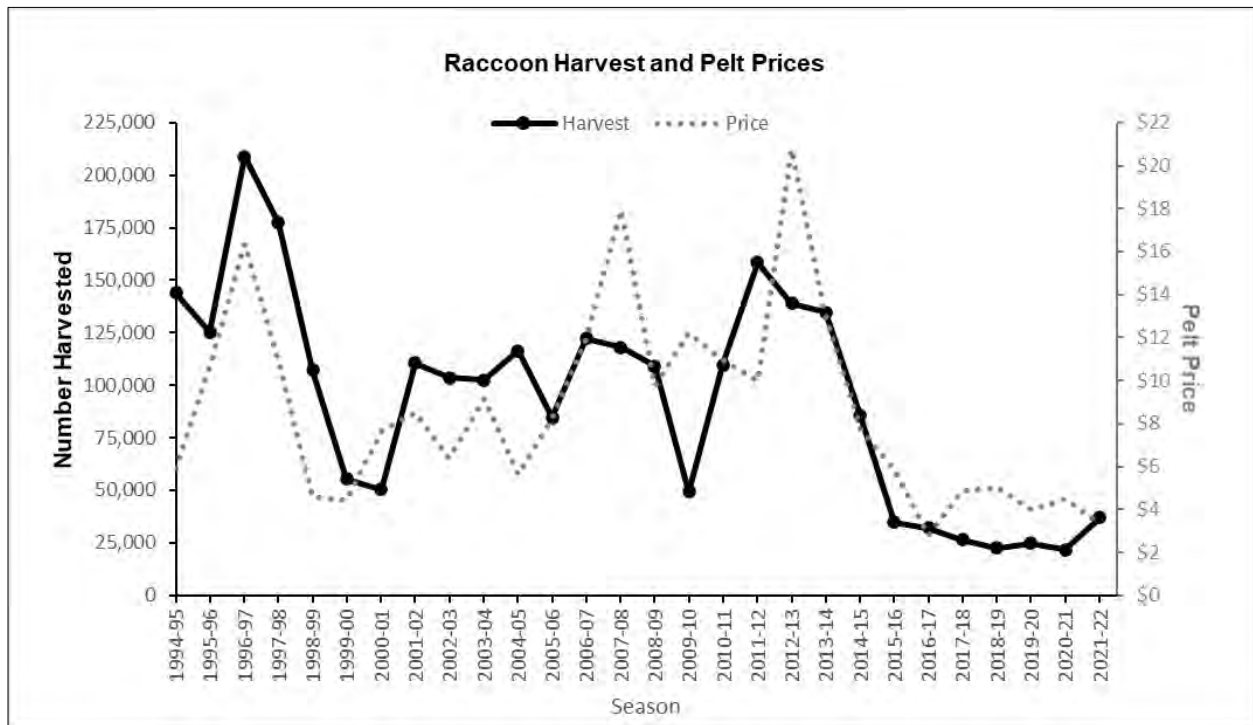


Figure 3. Comparison of Missouri raccoon harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

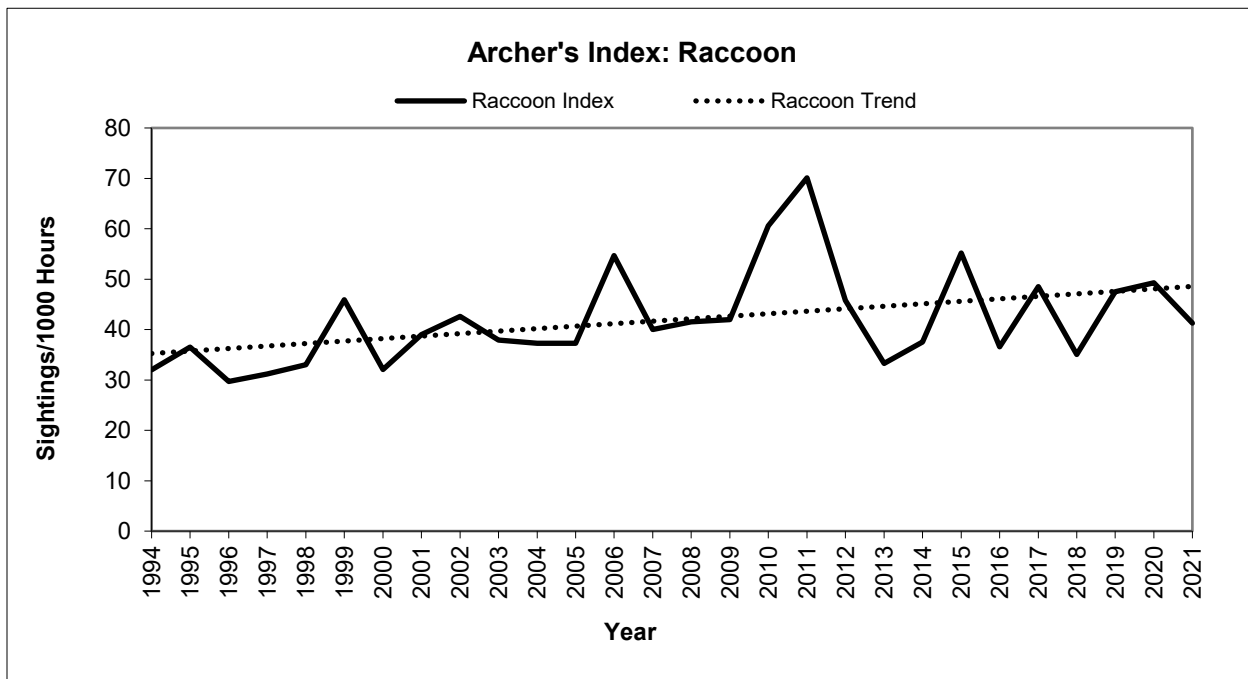


Figure 4. Raccoon population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

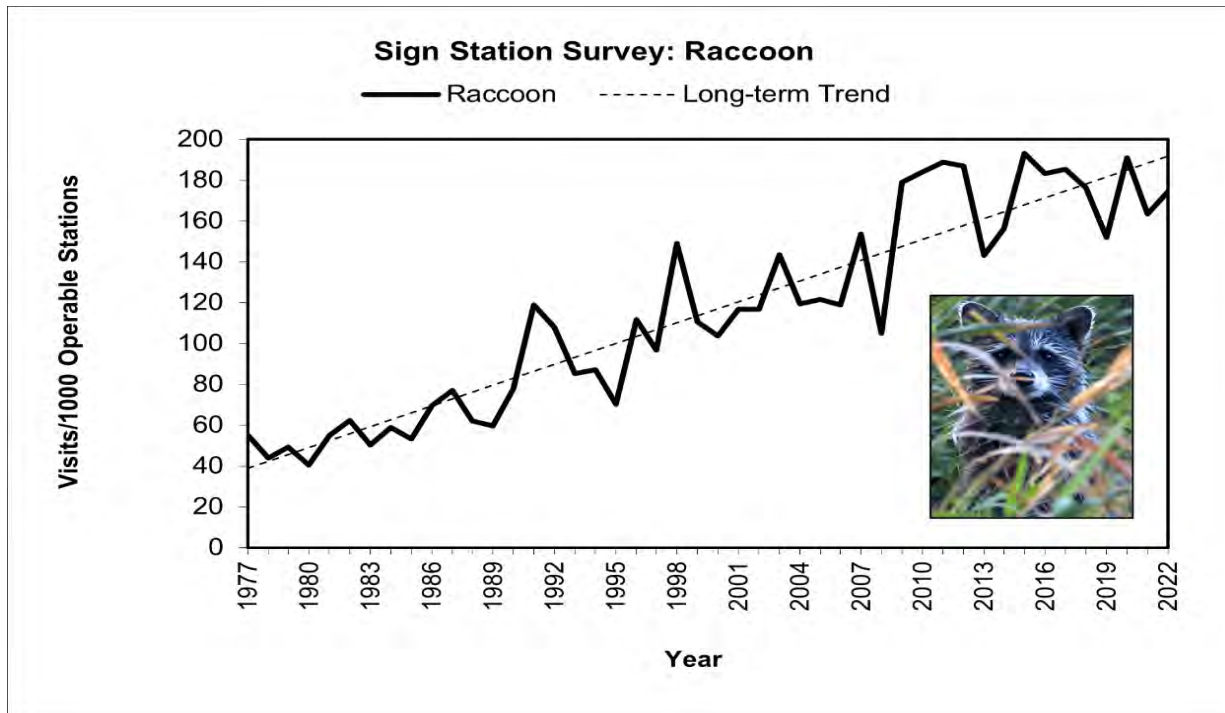


Figure 5. Missouri raccoon population trends based on the Furbearer Sign Station Survey Index.



Virginia Opossum Harvest and Population Trends

Virginia opossum harvest in 2021-22 totaled 1,607 (Figure 6). This year's harvest was up 69.34% from last year's harvest of 949 individuals. Harvest is up 105.5% from two years ago, following an increase in pelt prices from the 2015-16 low of \$0.64. Average Virginia opossum pelt prices for 2021-22 increased to \$2.91.



Population trends are derived from the Archer's Index and Sign Station Survey. Based on bowhunter observations, the number of Virginia opossums sighted per 1,000 hours decreased by 44% to 7.2 in 2020 from 13.0 in 2019 (Figure 7). Presence of Virginia opossum tracks at furbearer sign stations increased to an index of 130.26 in 2021 from 113.5 in 2020 (Figure 8). The long-term population trend data from surveys suggest populations are stable and increasing slightly over time.

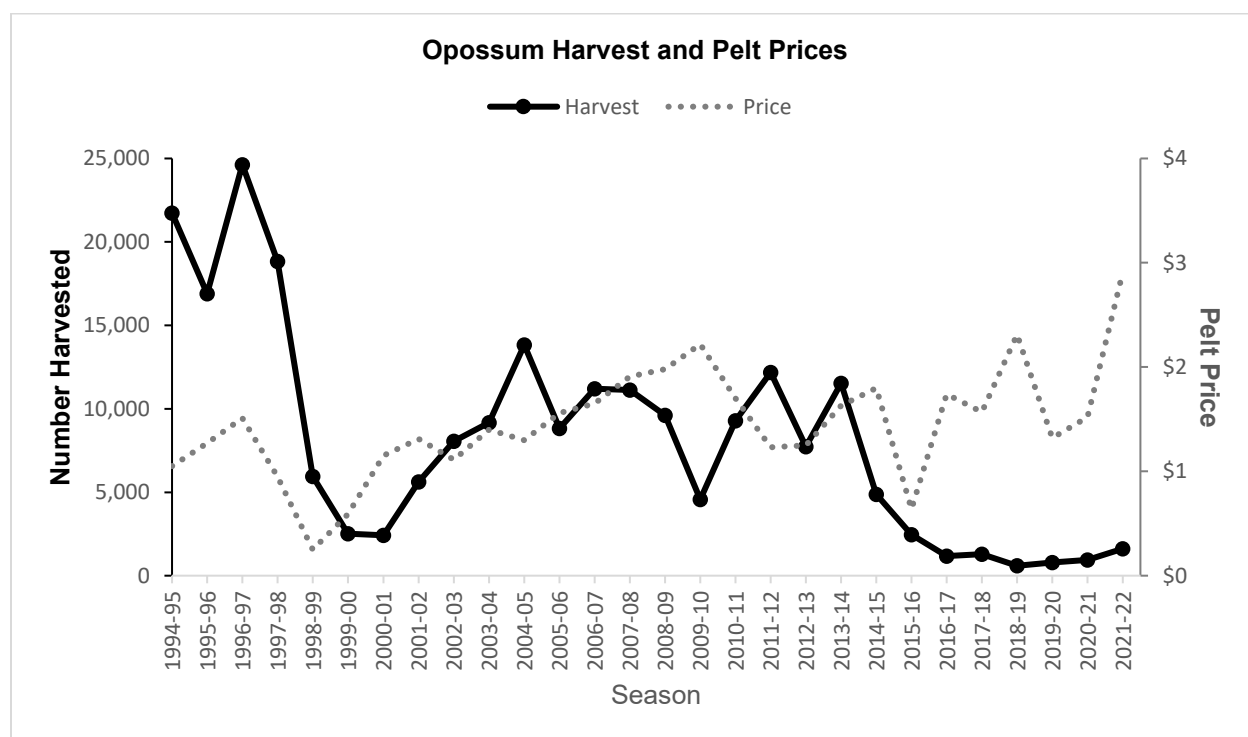


Figure 6. Comparison of Missouri Virginia opossum harvest and pelt since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

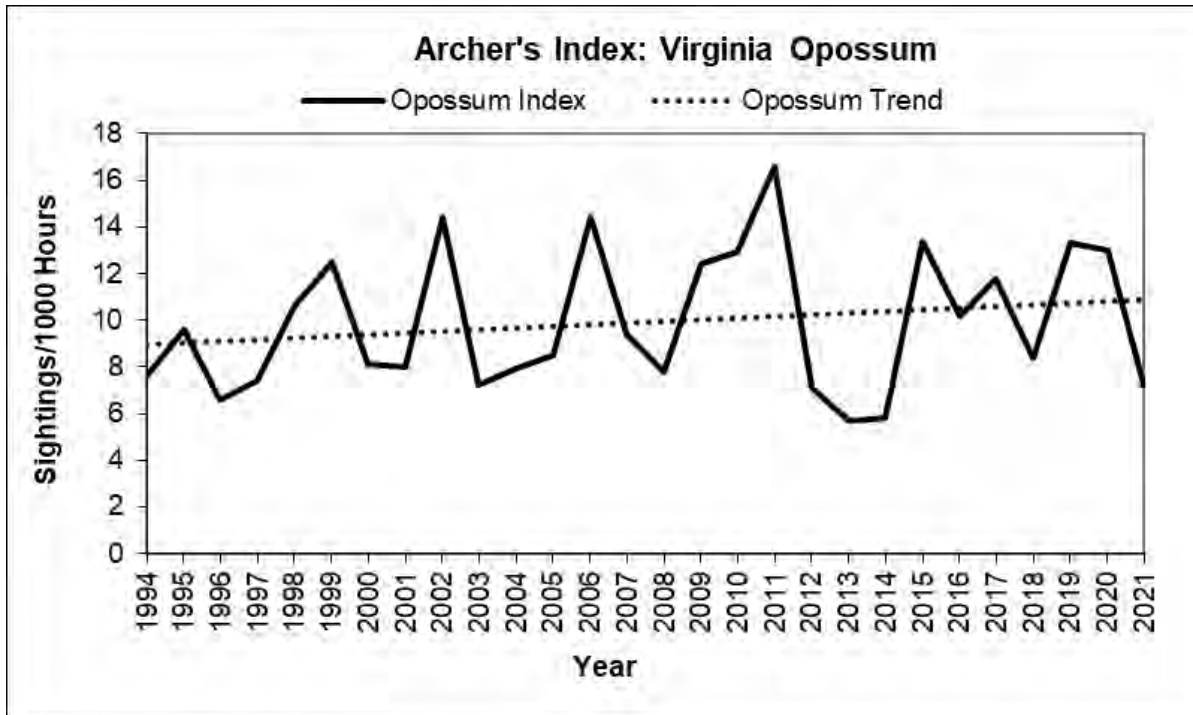


Figure 7. Virginia Opossum population trends based on the Archer's Index, derived from the MDC

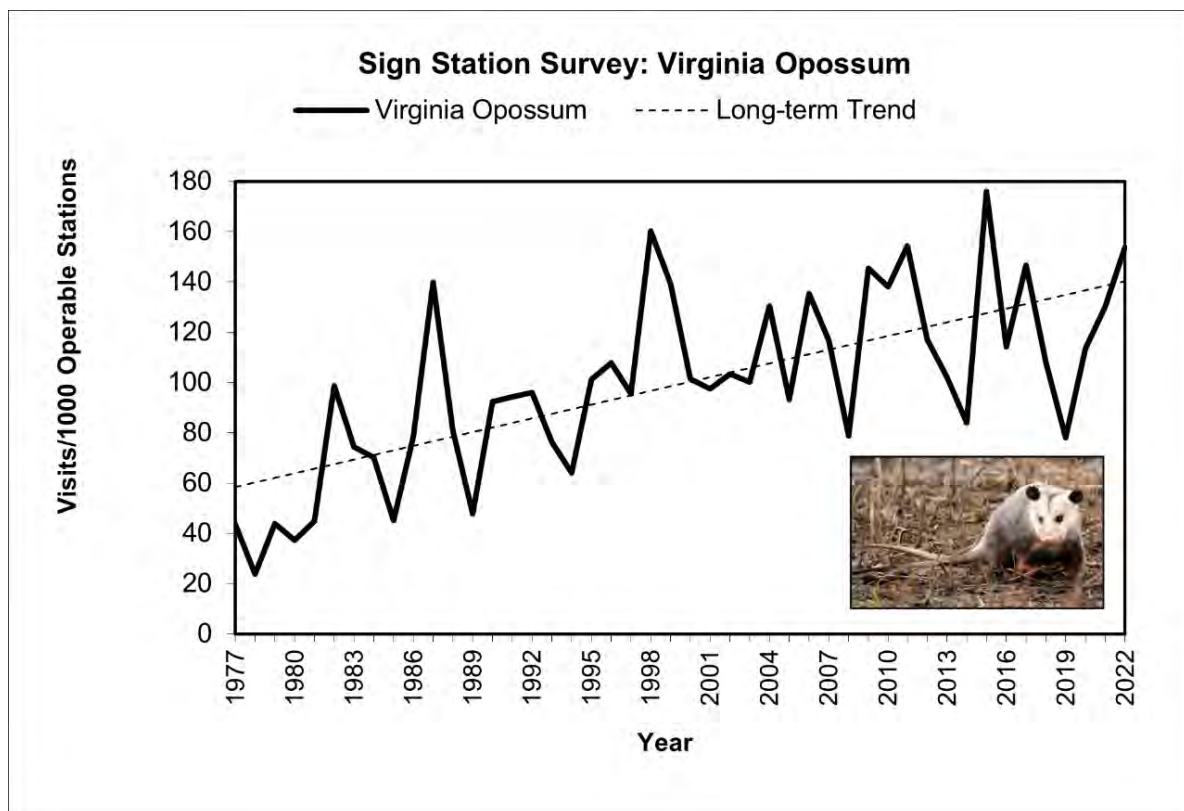


Figure 8. Missouri Virginia opossum population trends based on the Furbearer Sign Station Survey Index.

Coyote Harvest and Population Trends

Coyote harvest, based on Commercial Fur Buyer reports, during the 2021-22 furbearer season was down slightly from the 2020-21 season with 6,492 individuals harvested (Figure 9). Predator hunting continues to increase in popularity, and survey data suggest over 25,000 people hunt coyotes annually. Many trappers enjoy the challenge of catching coyotes, and this is reflected in the harvest totals. Coyote pelt prices averaged \$10.75 this year with a decrease of 47.6% from the previous season. However, coyote pelts are becoming increasingly popular in the international fur market, which may influence the local market for this species (NAFA, 2019; FHA, 2019).



Population trend data from the Archer's Index (Figure 10) and Sign Station Survey (Figure 11) for coyotes suggest populations are currently stable with an overall increasing trend since the 1970s when the Sign Station Survey began and the early 1980s when the Archer's Index began. Based on bowhunter observations, the number of coyotes sighted per 1,000 hours increased slightly with 23.2 in 2021 from 22.8 in 2020. Presence of coyote tracks at furbearer sign stations also decreased to an index of 125 in 2021 from 77.3 in 2020.

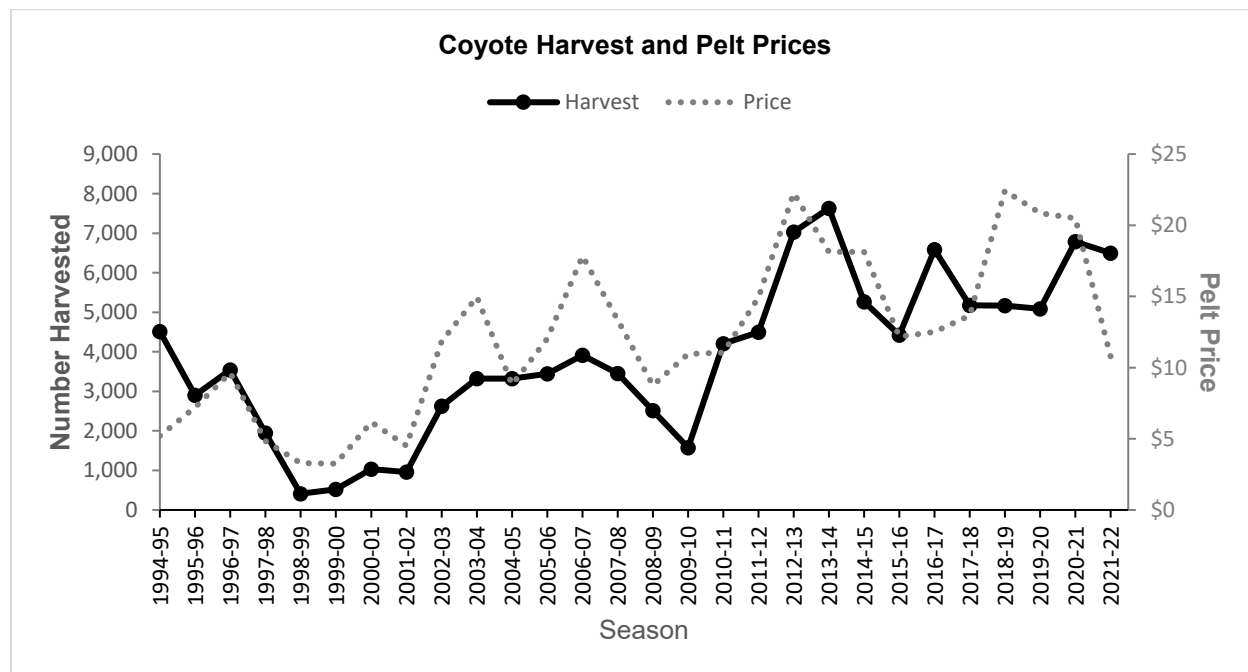


Figure 9. Comparison of Missouri coyote harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

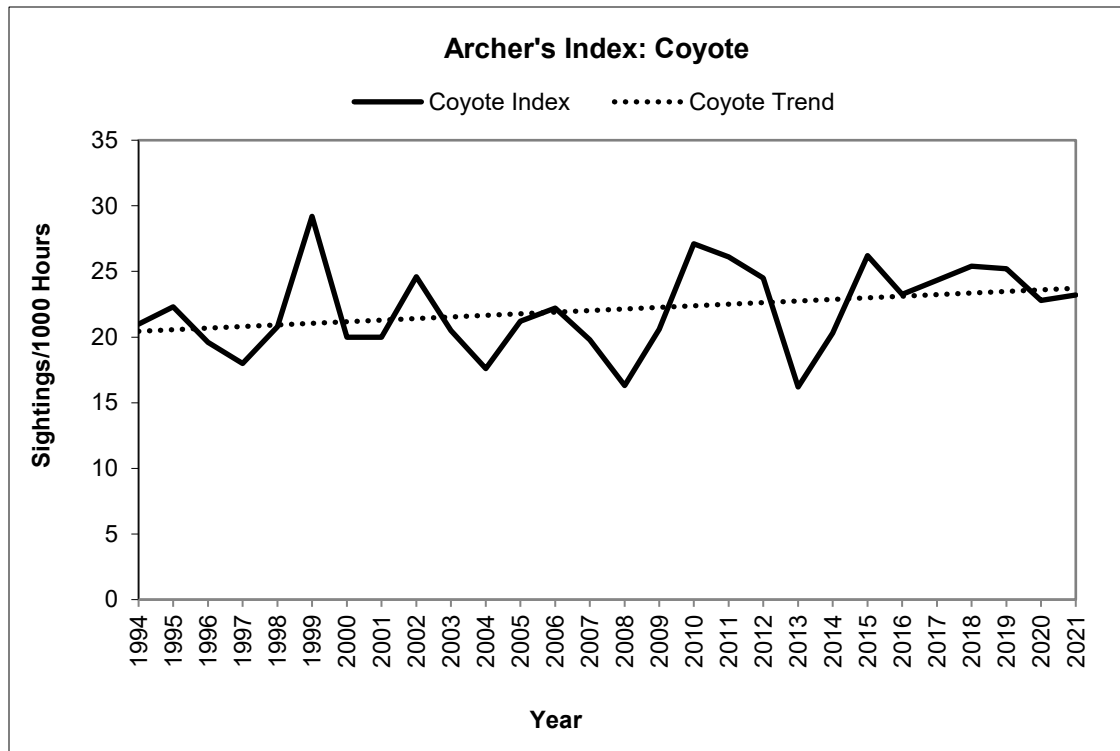


Figure 10. Coyote population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

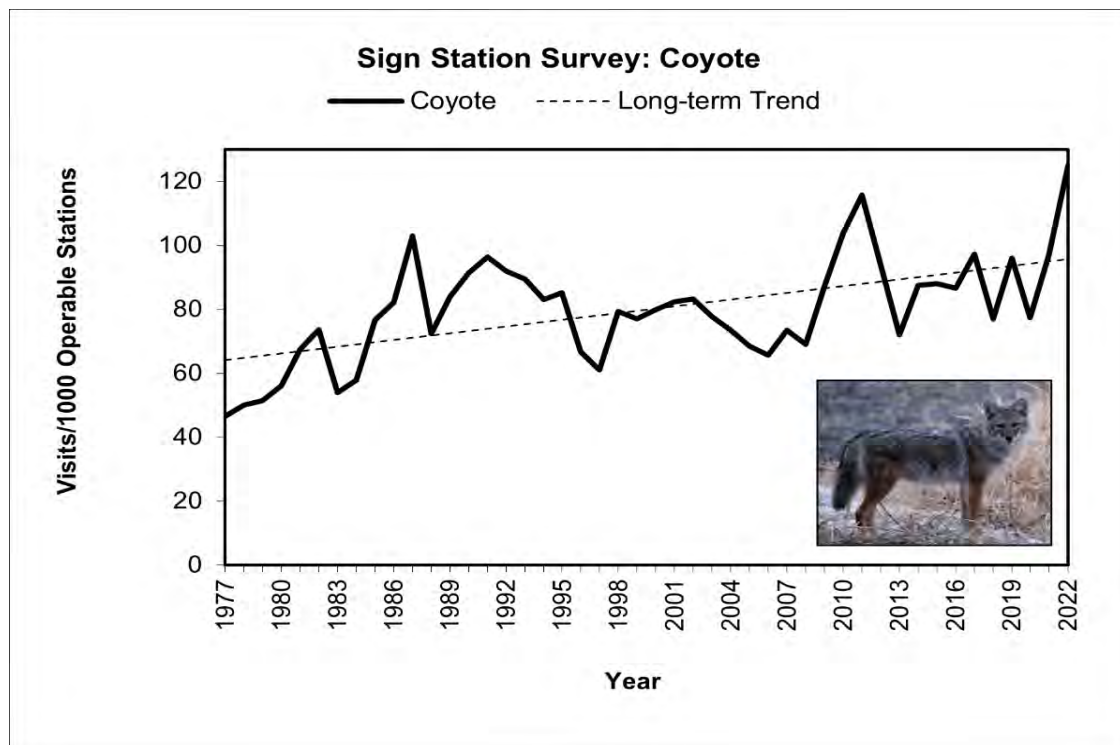


Figure 11. Missouri coyote population trends based on the Furbearer Sign Station Survey Index.

Fox Harvest and Population Trends

Red fox harvest during the 2021-22 season increased 97.76% from 402 to 795 individuals harvested (Figure 12). **Gray fox harvest** increase in 2021-22 by 66.67% to 355 individuals compared with last year's harvest of 213 (Figure 13). Average price for red fox pelts decreased by 2.5% to \$11.24 from \$11.53 the year before. Average price for gray fox pelts increased by 27% to \$19.90 from \$15.64 the year before. Fox harvest is typically a by-product of bobcat or coyote trapper effort but it's unclear why there is such a large difference in the red and gray fox harvest.

Population trends are derived from the Archer's Index and Sign Station Survey. Bowhunter observations and sign station surveys offer a long-term perspective suggesting declines in both red and gray fox populations (Figures 14 -16). Long-term fox population declines may be the result of interspecific competition with coyotes and bobcats. Another possible strain on gray fox populations is the increasing population of raccoons and the associated distemper virus, for which gray fox may be particularly vulnerable. Regional variability in fox abundance likely occurs, including around suburban areas where foxes may seek refuge from coyotes or respond to increased prey availability, but the overall long-term trend for both fox species indicates a decline in abundance.



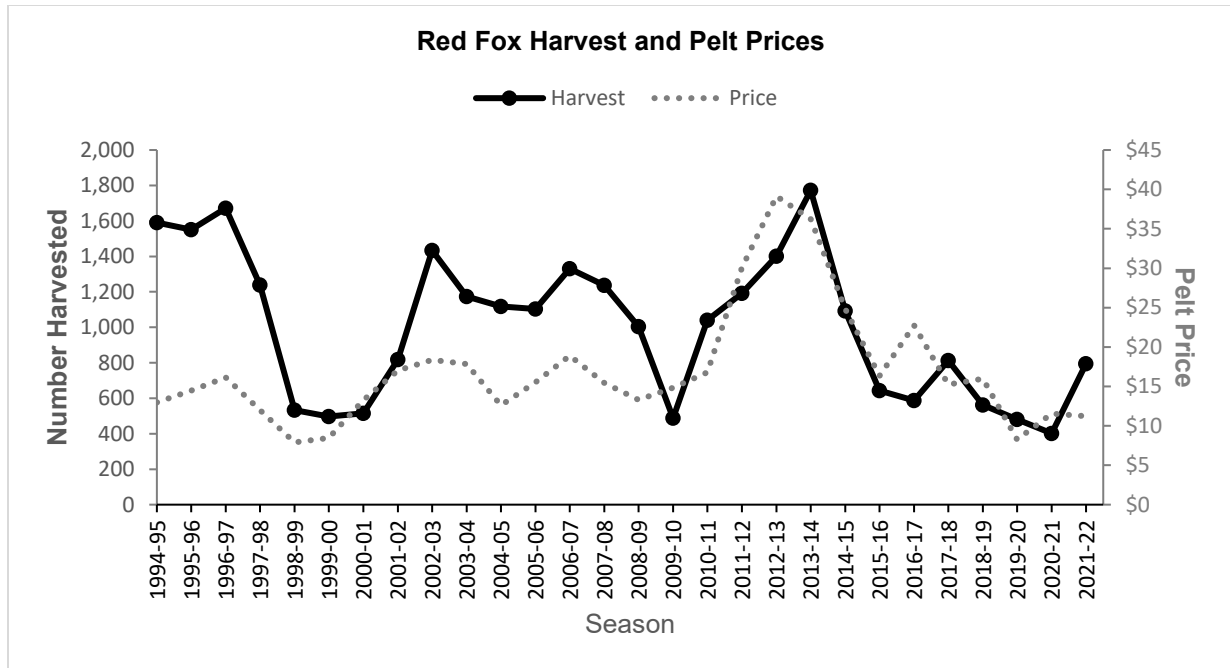


Figure 12. Comparison of Missouri red fox harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

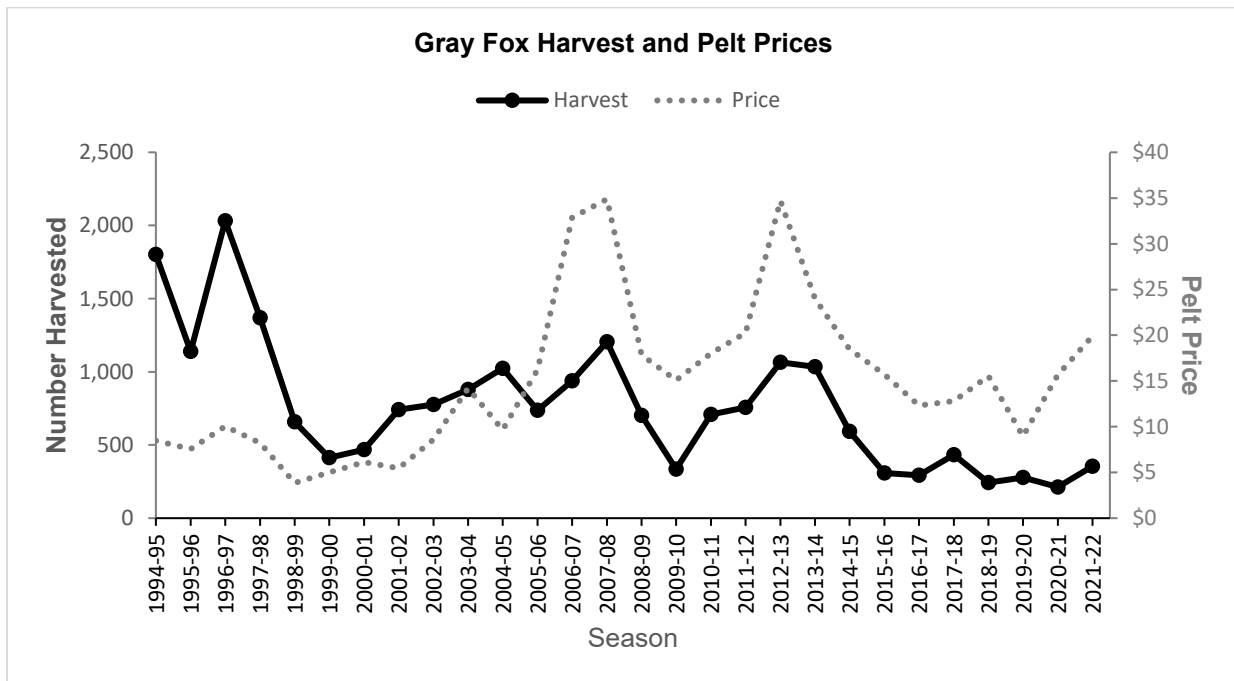


Figure 13. Comparison of Missouri gray fox harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

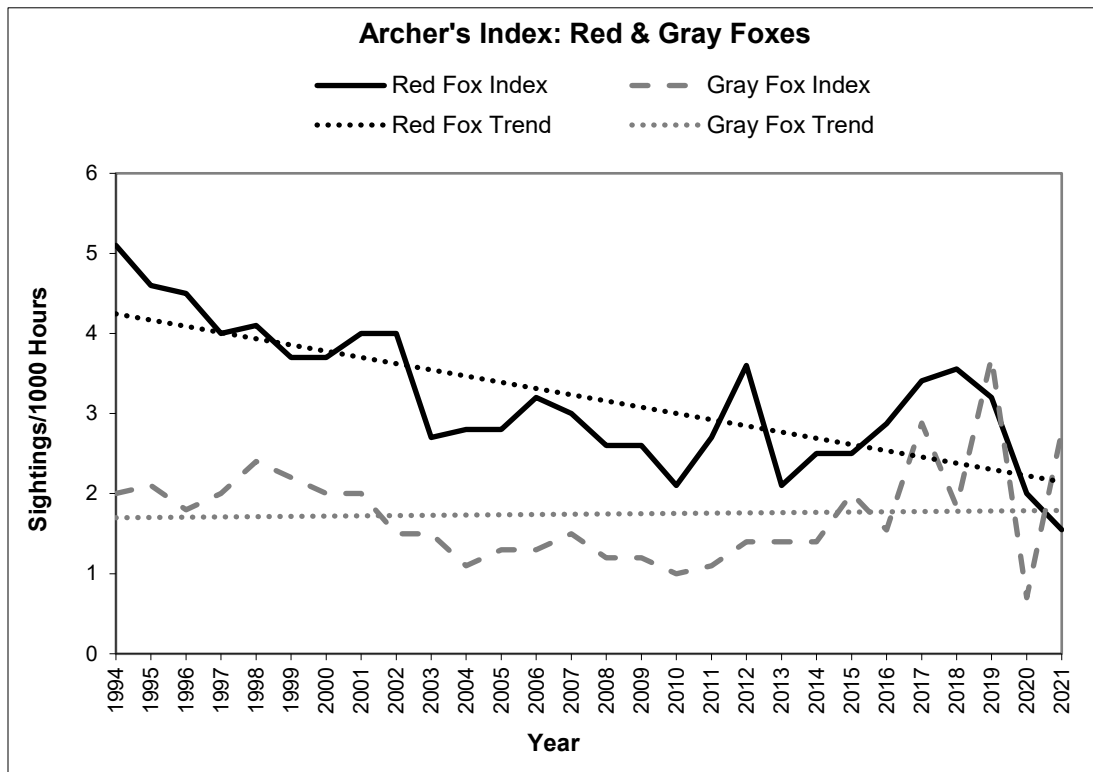


Figure 14. Missouri fox population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

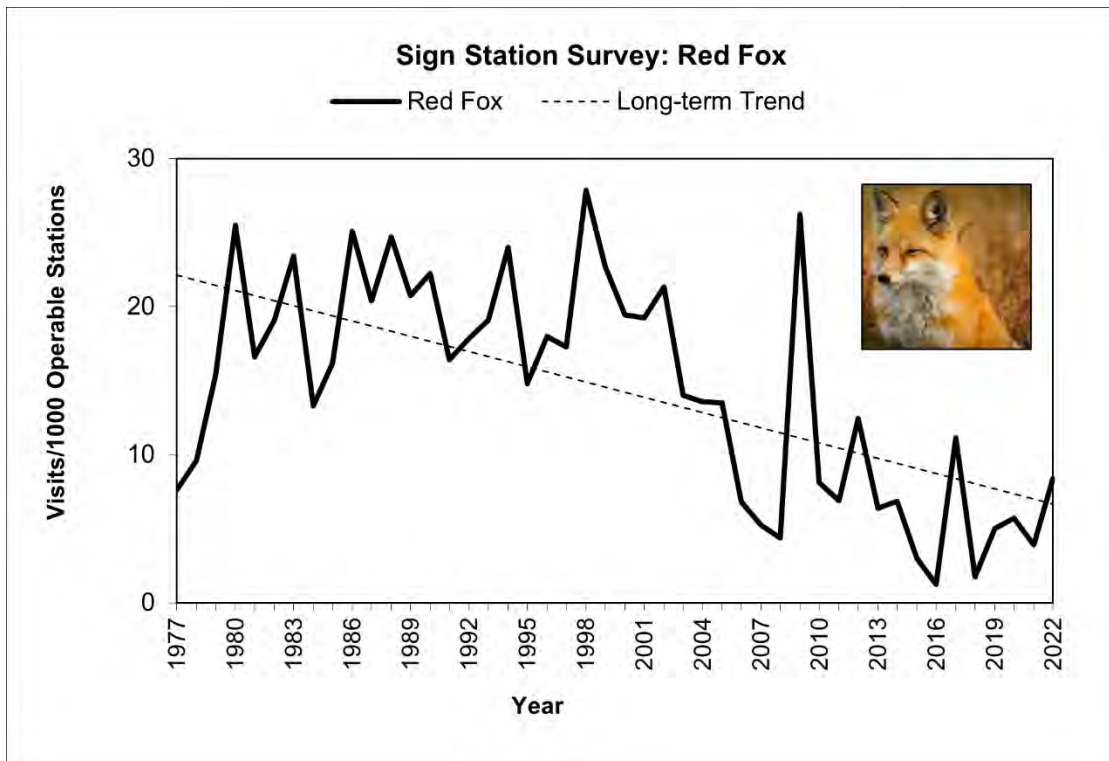


Figure 15. Missouri red fox population index trends from 1977 to 2022.

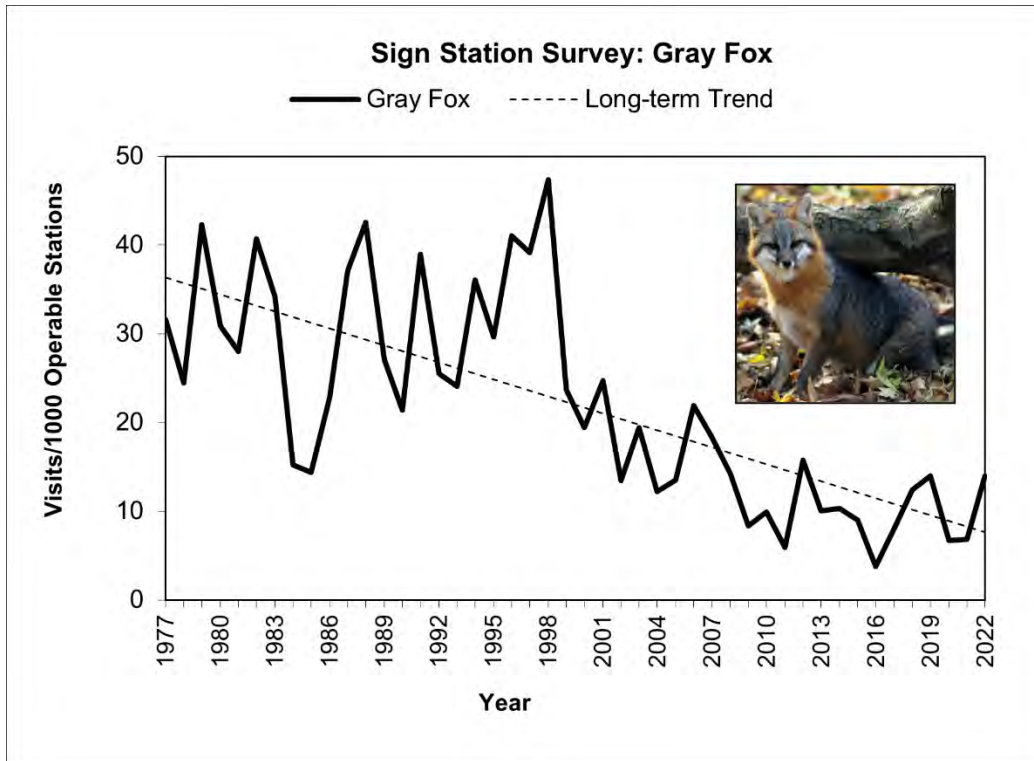


Figure 16. Missouri gray fox population index trends from 1977 to 2022.

Striped Skunk Harvest and Population Trends

Striped skunk harvest in 2021-22 totaled 159 with most individuals harvested by trapping (Figure 17). This year's harvest was down 31.76% from last year's harvest of 233 individuals. Average striped skunk pelt prices for 2021-22, increased 23.6% from 2020-21 from \$8.42 to \$10.41. The 2021-22 season resulted in the highest ever pelt price for striped skunk again after last year's record high.



Population trends are derived from the Bowhunter Observation Survey and Furbearer Sign Station Survey. Population trend data from the Archer's Index (Figure 18) and Sign Station Survey (Figure 19) for striped skunk continue to suggest that the population is stable.

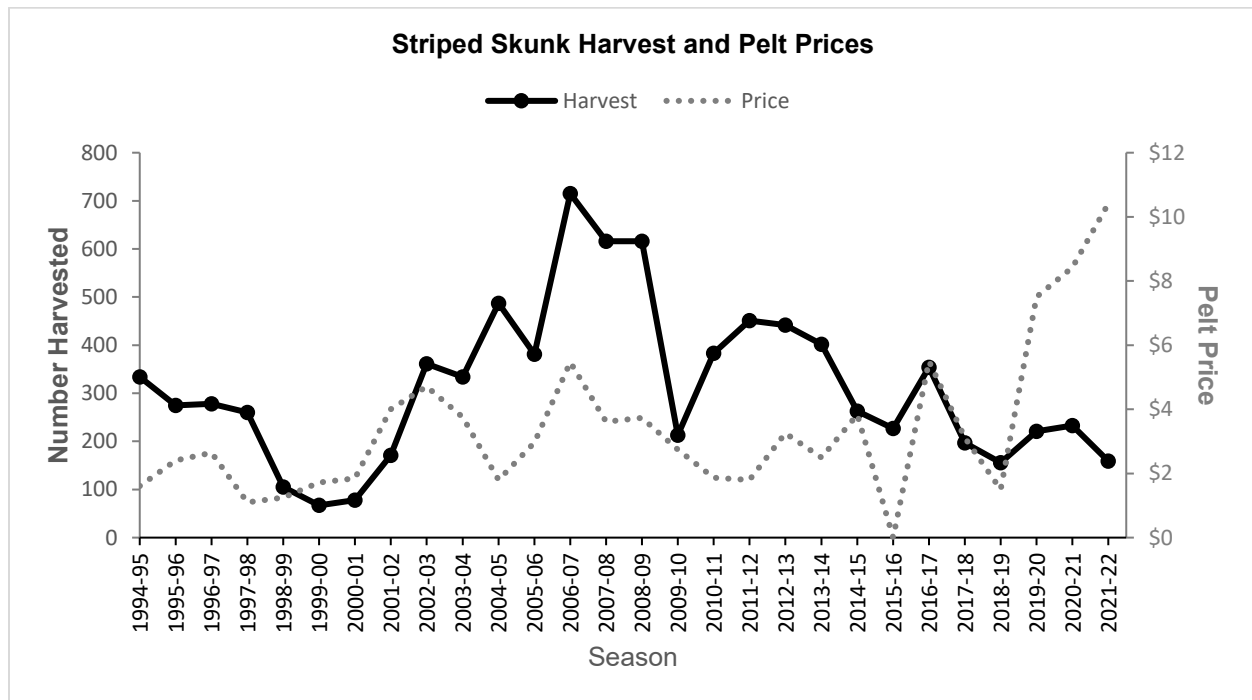


Figure 17. Comparison of Missouri striped skunk harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

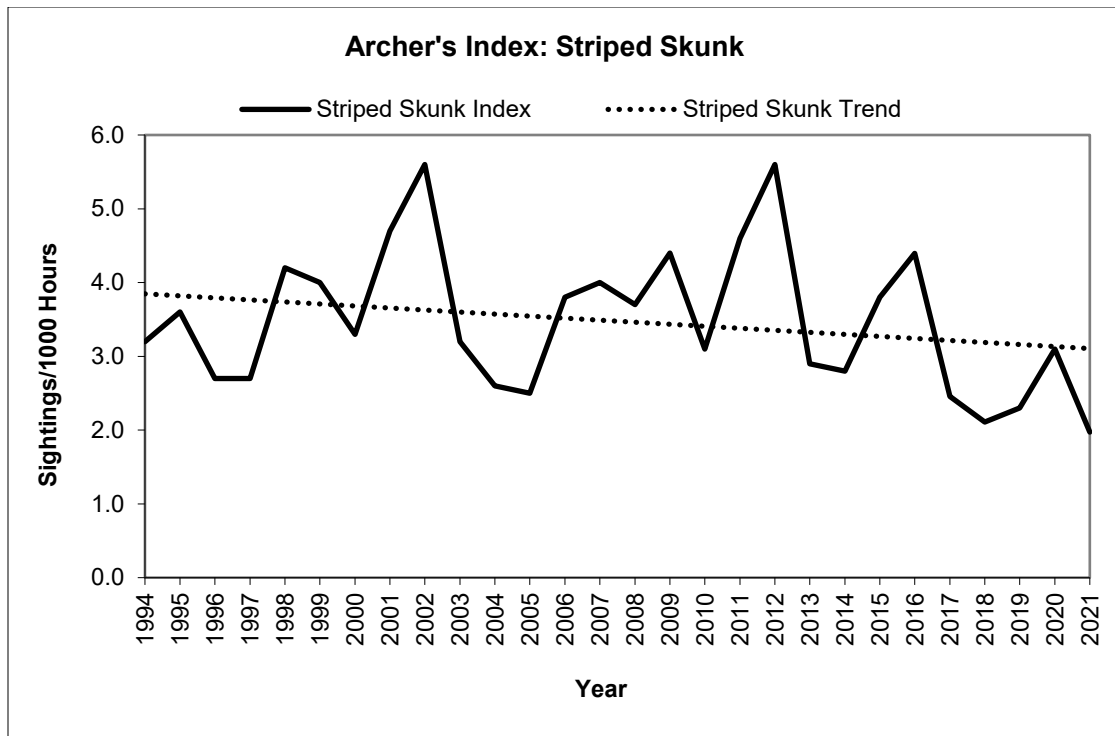


Figure 18. Striped skunk population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

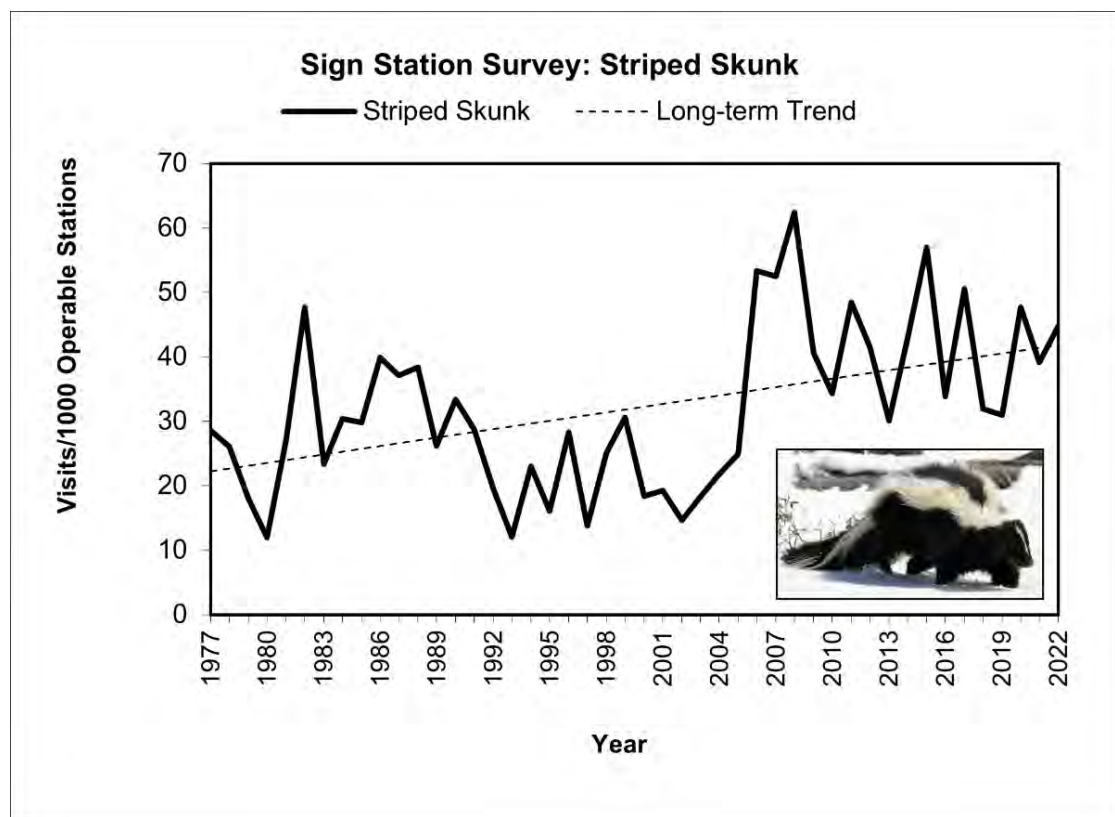


Figure 19. Missouri striped skunk population trends based on the Furbearer Sign Station Survey Index.

Bobcat Harvest and Population Trends

Bobcat harvest during the 2021-22 season was down 36.9% from 2020-21 and only down 48.29% from 2019-20 harvest seasons (Figure 20) with **1,303 bobcats** harvested. Prices during the 2021-22 season increased by 5.6% from the previous year, to \$46.01. Trappers and hunters are required to check or register bobcat carcasses or green pelts at MDC offices or with Conservation Agents. The number of bobcat pelts purchased by fur dealers (4,615) was significantly higher than those registered by trappers and hunters (1,303). In 2021, only 2,065 pelts were purchased by fur dealers which doubled in 2022. Instead of selling to fur buyers, trappers usually make more money selling carcasses to taxidermists or selling mounted bobcats or may retain bobcat pelts for personal use. Trappers may have taken advantage of the recovered price for bobcat pelts to reduce large inventories from previous years.



Population trends are derived from the Bowhunter Observation Survey and Furbearer Sign Station Survey. Both Sign Station Survey and Archer's Index data suggest bobcat populations appears to be stable (Figures 21 and 22).

Geographic distribution of harvest varies by county and method. Trappers harvested 783 bobcats, while hunters harvested 493 bobcats. Audrain County had the highest total harvest at 56 (Figure 23). Mercer County had the highest hunting harvest (Figure 23), while Vernon Counties had the highest trapper harvest (Figure 24).

Age analysis of teeth submitted to the department show a majority of individuals harvested were in the age classes three years of age or below (Figure 25 and 26). These and other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to monitor the bobcat population.

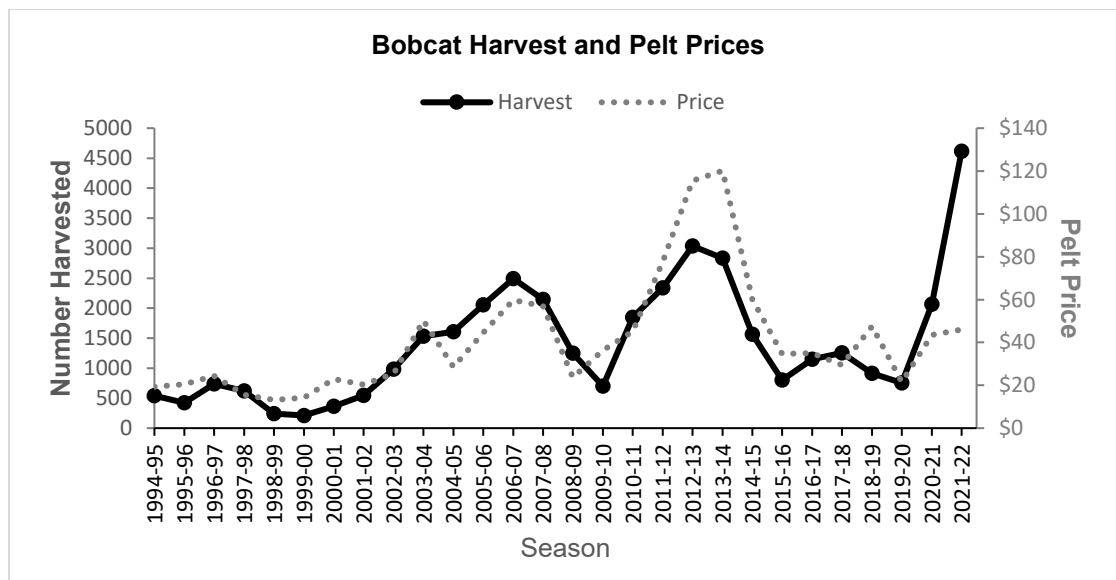


Figure 20. Missouri bobcat harvest trends since 1994 compared to average pelt prices.

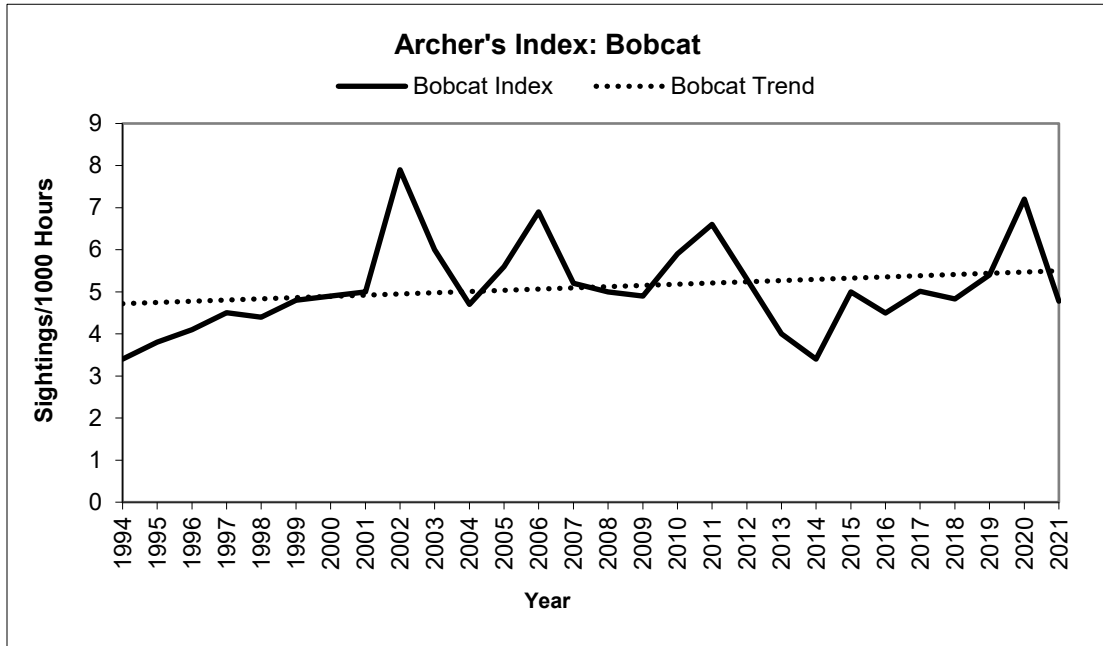


Figure 21. Missouri bobcat population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

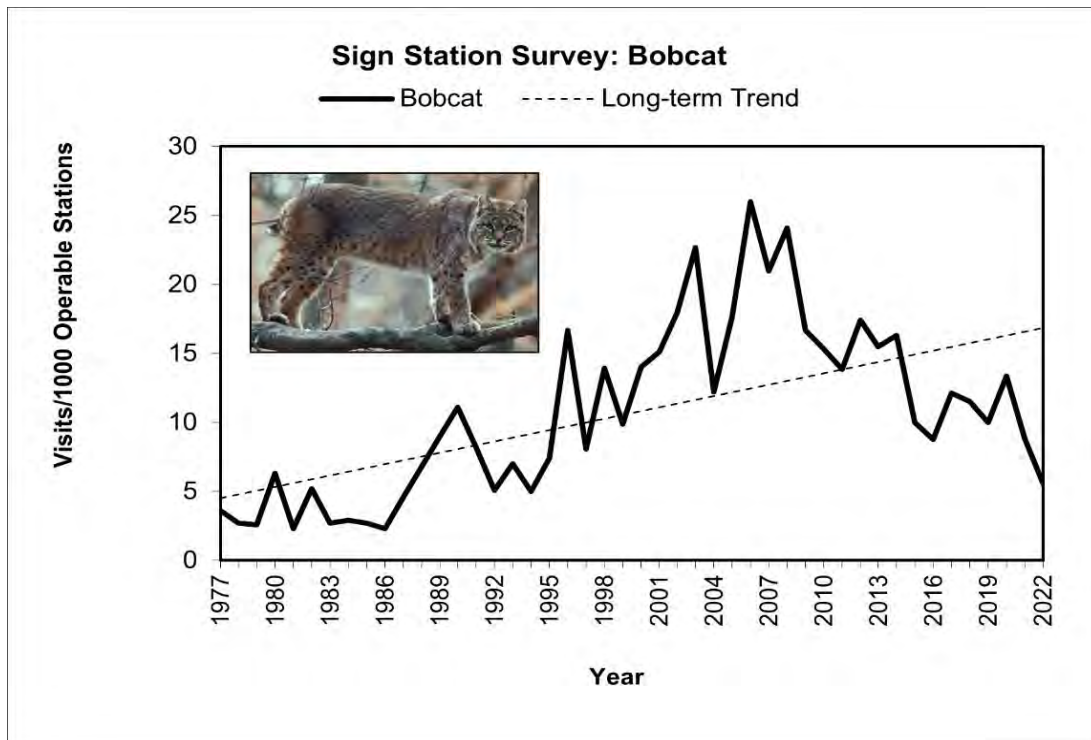


Figure 22. Missouri bobcat population trends based on the Furbearer Sign Station Survey Index.

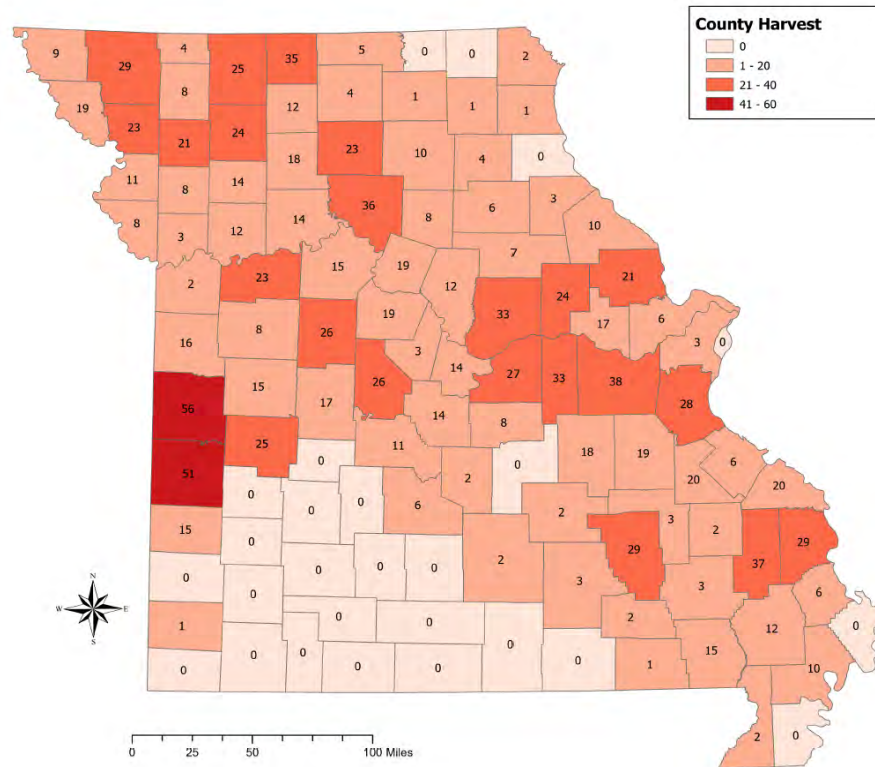


Figure 23. Number of Missouri bobcats harvested per county during the 2021-22 season.

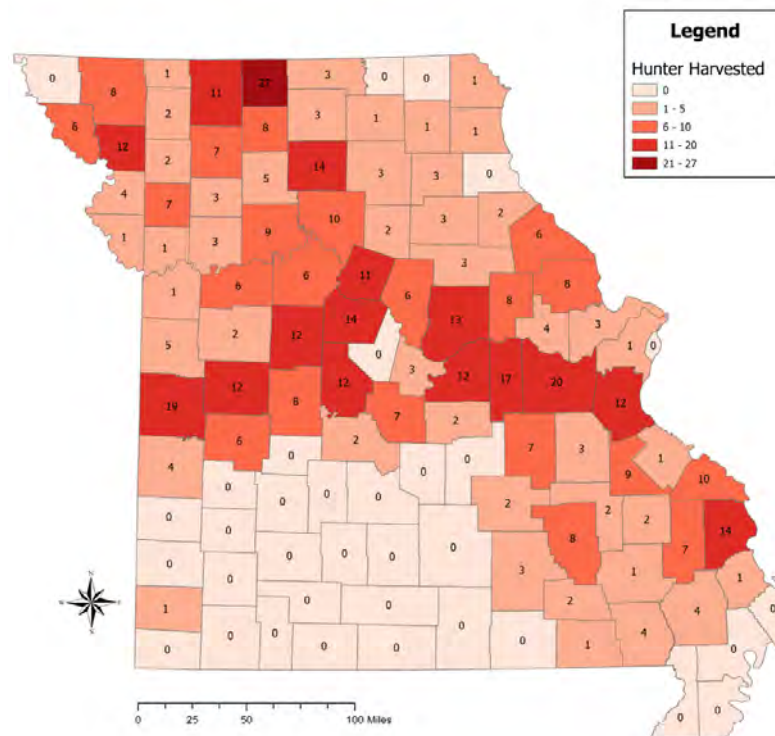


Figure 24. Number of Missouri bobcats harvested by hunting methods per county in the 2021-22 season.

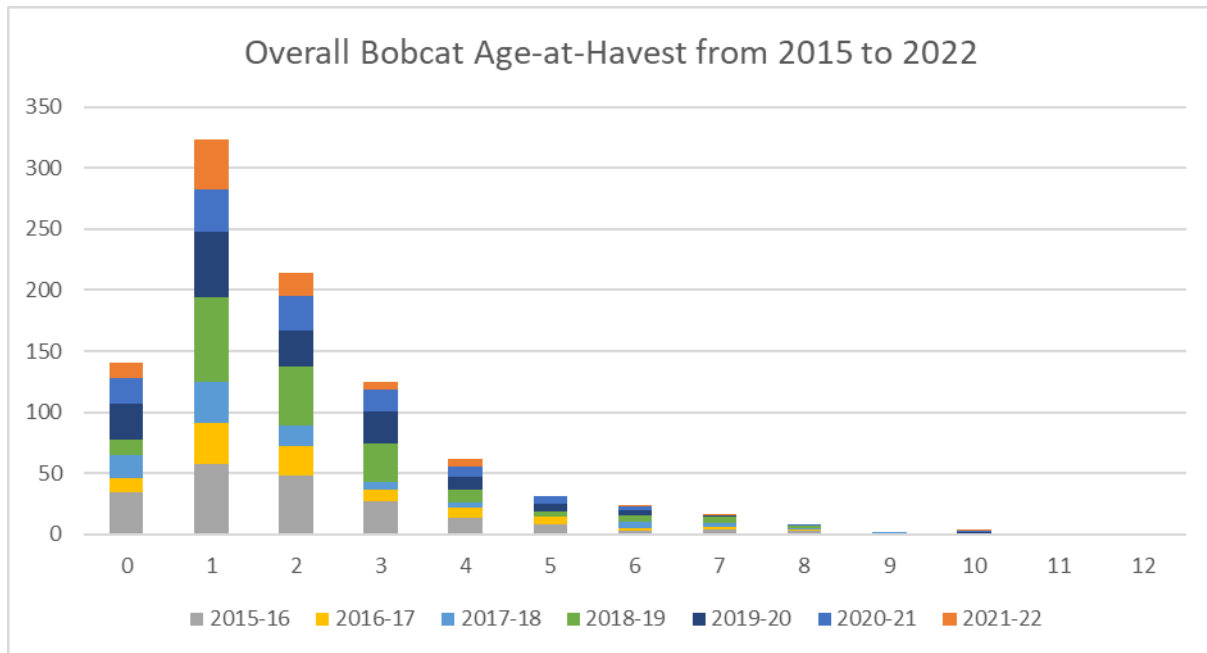


Figure 25. Ages of bobcats harvested from 2015 to 2022 stacked by age. Age is determined by analysis of teeth submitted voluntarily by trappers and hunters.

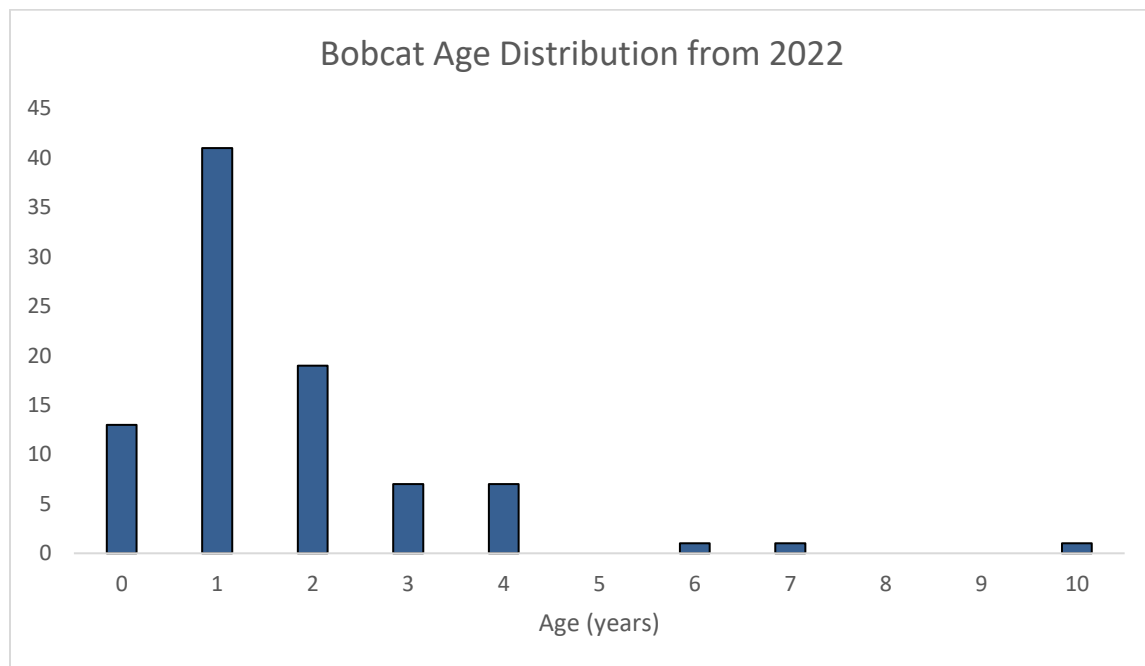


Figure 26. Ages of bobcats harvested from 2022 stacked by age. Age is determined by analysis of teeth submitted voluntarily by trappers and hunters.

River Otter Harvest

River otter harvest for the 2021-22 furbearer season was **1,026 river otters**, down 32% from last year. River otter pelt prices increased 79.4% from last year at \$15.59 to \$27.97 and were 67.3% lower than the peak prices in 2012-13 season. The relatively low harvest of the last five seasons can be attributed to the steady decline in pelt prices with minor fluctuations (Figure 27).



Trappers are required to check or register river otter carcasses or green hides at MDC offices or with Conservation Agents in accordance with requirements by CITES for exportation outside of the United States.

River otter harvest was highest in Bates County with 93 individuals harvested (Figure 28). River otter harvest during the 2021-22 season was highest in the Grand River watershed with 108 harvested (Figure 29).

Age analysis of teeth submitted to the department indicates that individuals in the one-year age class represent the highest proportion of the harvest compared to other age classes (Figure 30 and 31). These and other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to monitor the bobcat population.

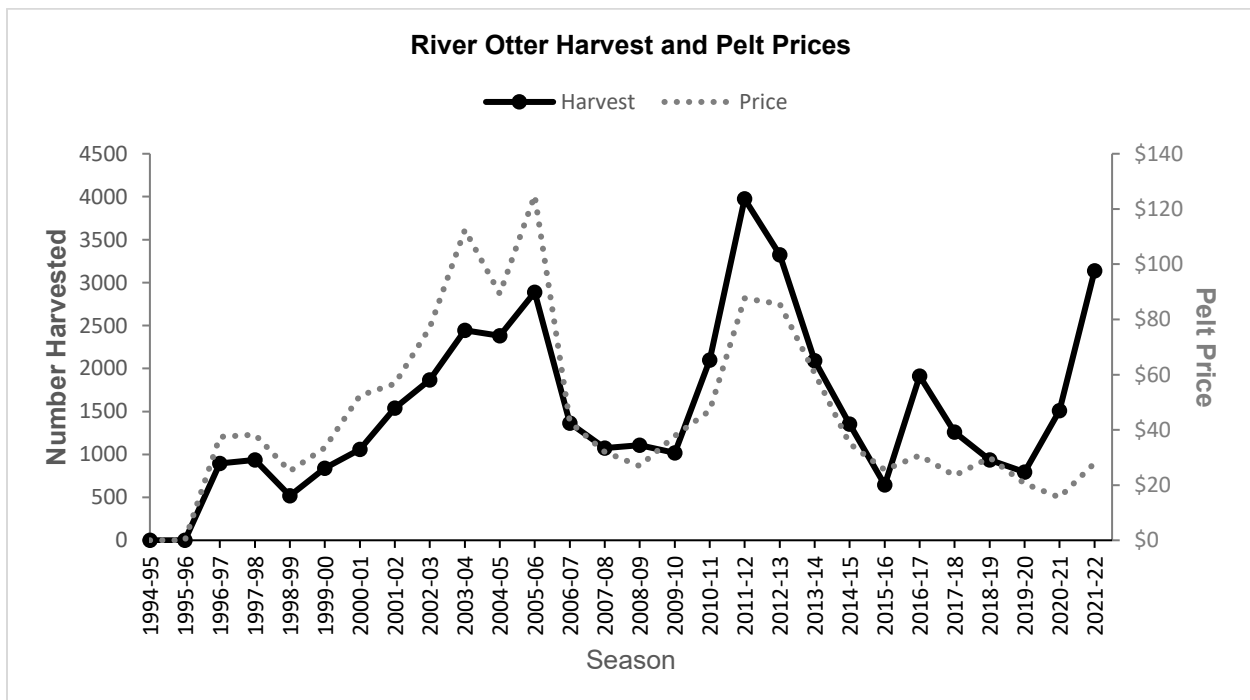
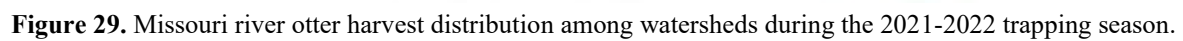
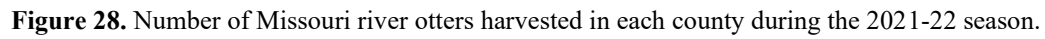


Figure 27. Missouri river otter harvest and average pelt prices from 1994 to 2021. Season did not open until 1996.



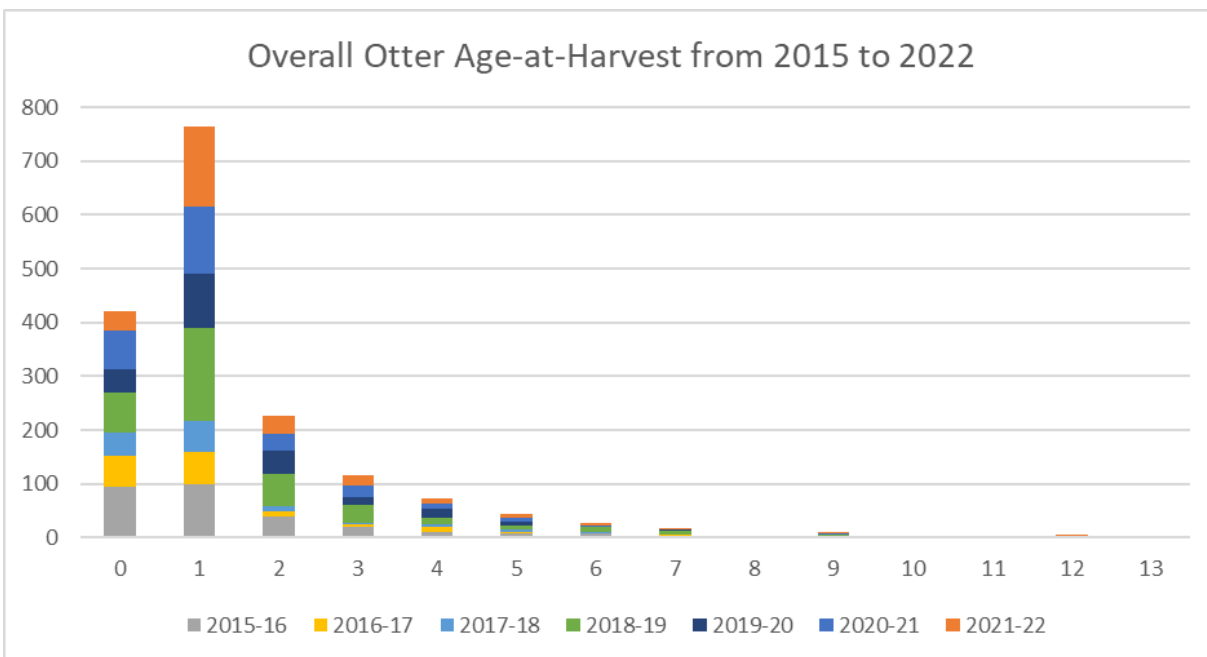


Figure 30. Ages of otter harvested from 2015 to 2022 stacked by age. Age is determined by analysis of teeth submitted voluntarily by trappers.

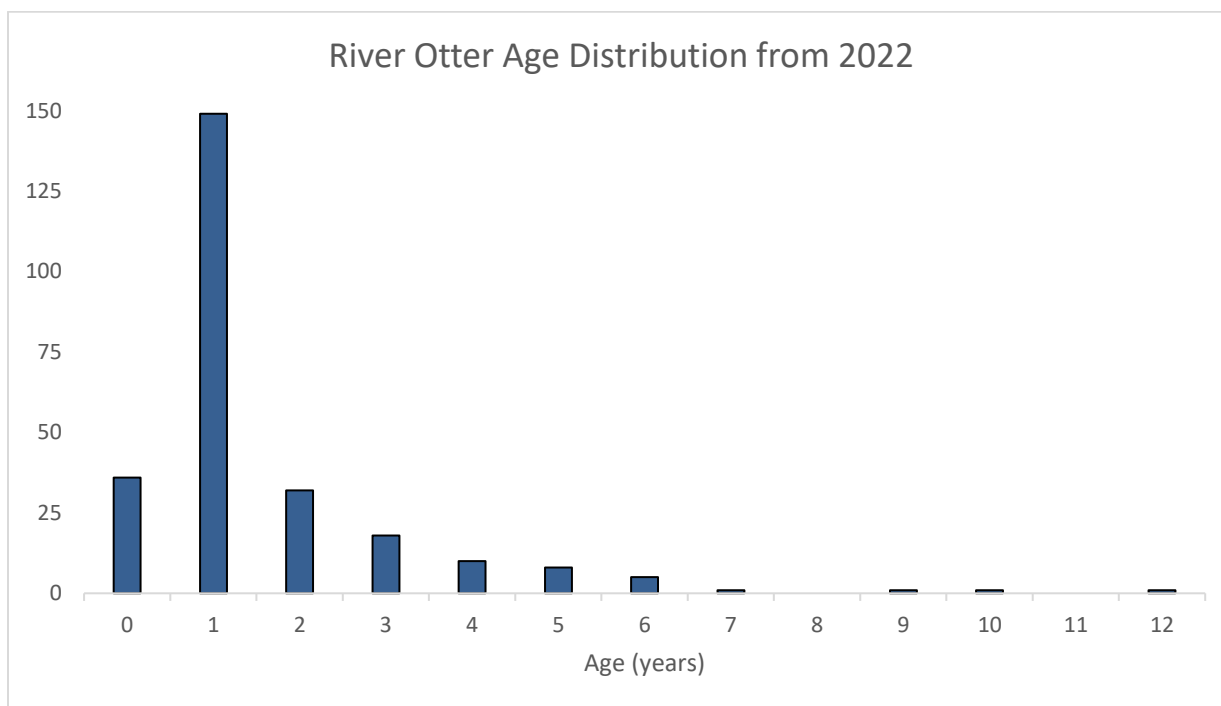


Figure 31. Ages of otter harvested from 2022 stacked by age. Age is determined by analysis of teeth submitted voluntarily by trappers.

Table 3. Missouri river otter harvest distribution among watersheds during the 2021-2022 trapping season

Watershed	Number Harvested	Percent of Harvest	Watershed	Number Harvested	Percent of Harvest
Big Piney River	0	0.00%	Mississippi R. (upper)	22	2.14%
Big River	0	0.00%	Missouri River	100	9.75%
Black River	39	3.80%	Moreau River	58	5.65%
Blackwater River	49	4.78%	N. Fork White River	0	0.00%
Bourbeuse River	11	1.07%	Niangua River	16	1.56%
Chariton River	3	0.29%	Nodaway River	0	0.00%
Cuivre River	13	1.27%	North River	0	0.00%
Current River	1	0.10%	Osage River East	20	1.95%
Eleven Point River	0	0.00%	Osage River West	47	4.58%
Elk River	0	0.00%	Platte River	9	0.88%
Fabius River	0	0.00%	Pomme de Terre River	0	0.00%
Fox River	0	0.00%	S. Grand River	12	1.17%
Gasconade River	8	0.78%	Sac River	0	0.00%
Grand River	108	10.53%	Salt River	6	0.58%
Headwater Diversion	8	0.78%	Spring River	0	0.00%
Jacks Fork River	0	0.00%	St. Francis River	28	2.73%
James River	0	0.00%	Thompson River	1	0.10%
Lamine River	44	4.29%	White River	0	0.00%
Locust Creek	1	0.10%	Wyaconda River	0	0.00%
Meramec River	4	0.39%	Unknown	374	36.45%
Mississippi R. (lower)	44	4.29%	Total Harvest	1026	100%

Mink, Muskrat, and Beaver Harvest and Population Trends

Mink, muskrat, and beaver harvests continue to fluctuate in somewhat predictable ranges. Since 1990, mink harvests have varied from about 150 – 1,500 (Figure 31), muskrat harvests from 5,000 – 20,000 (Figure 32), and beaver harvests from 2,000 – 10,000 (Figure 33). Historically, mink and muskrat numbers have fluctuated widely; however, habitat degradation has limited populations and subsequently reduced harvest. Beavers are a longer-lived species and less vulnerable to depredation; harvest rates are more likely related to pelt values.



Trappers harvested 509 mink (Figure 31), 7,828 muskrats (Figure 32), and 6,425 beavers (Figure 33) during the 2021-22 season. Mink prices increased slightly to \$7.64. Muskrat prices also increased to \$4.61. Beaver prices also decreased slightly to \$8.14.

Population trends for these species are derived from the Bowhunter Observation Survey. Population trend data are low (Figure 33), in part, because these animals are associated with water bodies and may not be a common sighting for archers and are rarely present in Sign Station Surveys. Given that, trends of mink, muskrat, and beaver suggest populations are stable with slight declines for beaver.

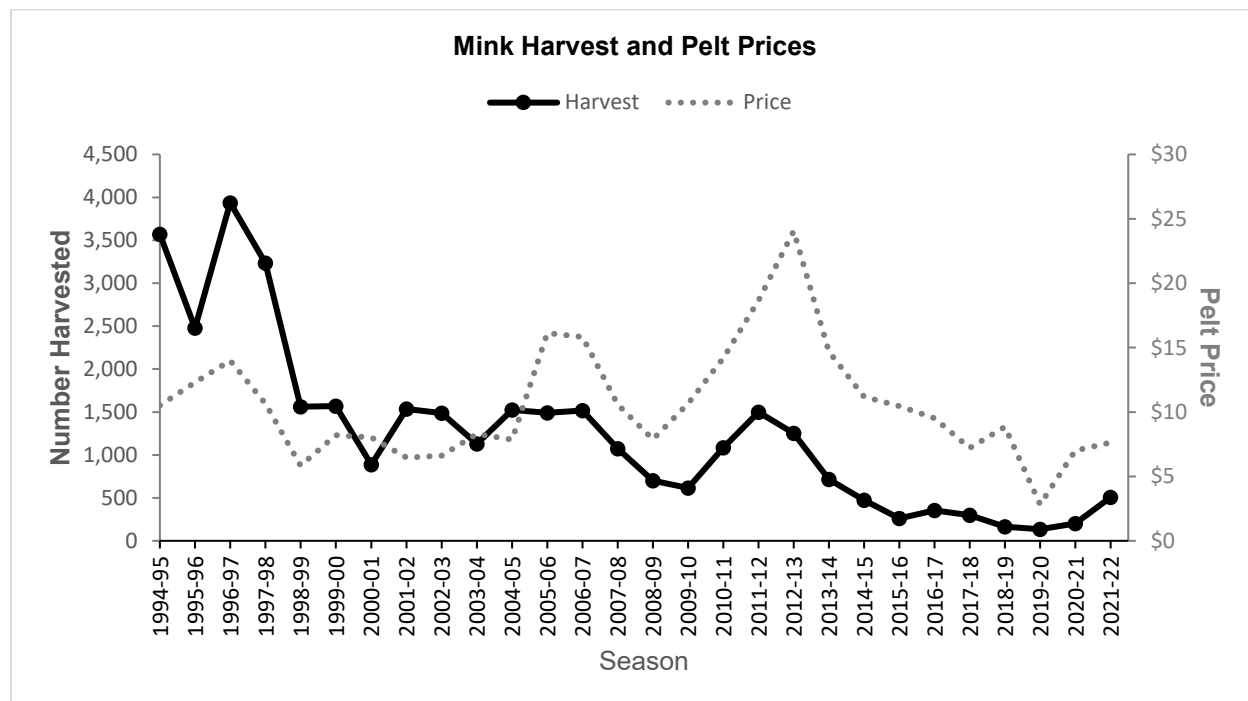


Figure 31. Missouri mink harvest trends since 1994 compared to average pelt prices. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

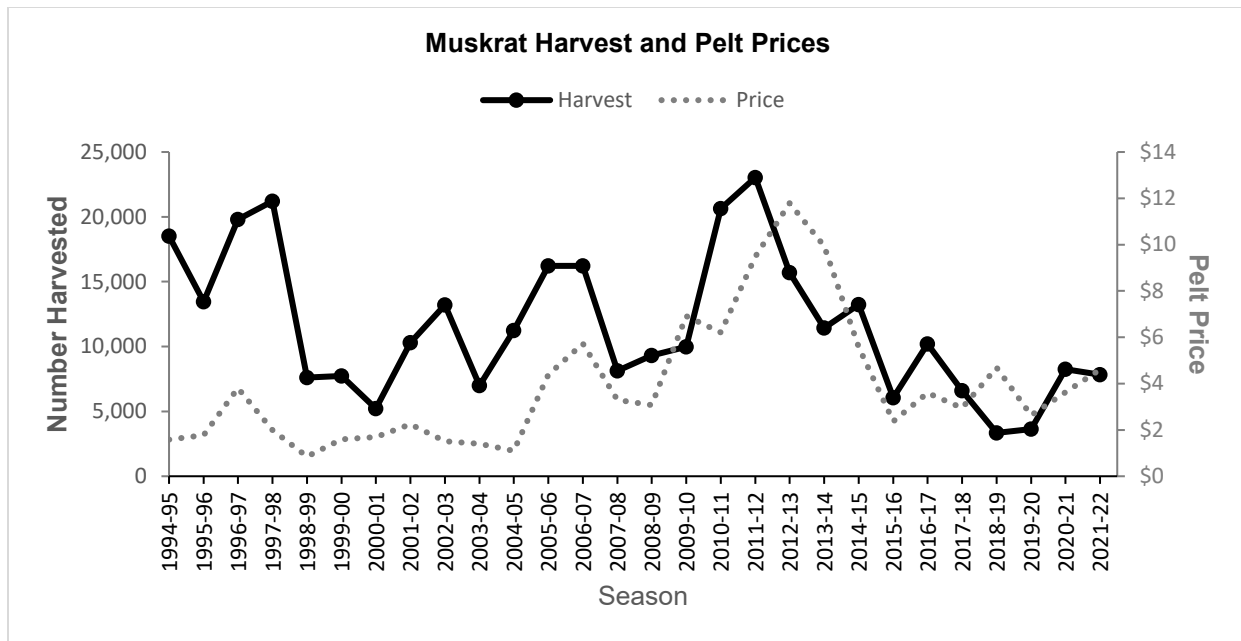


Figure 32. Comparison of Missouri muskrat harvest and pelt prices over the last 50 years. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

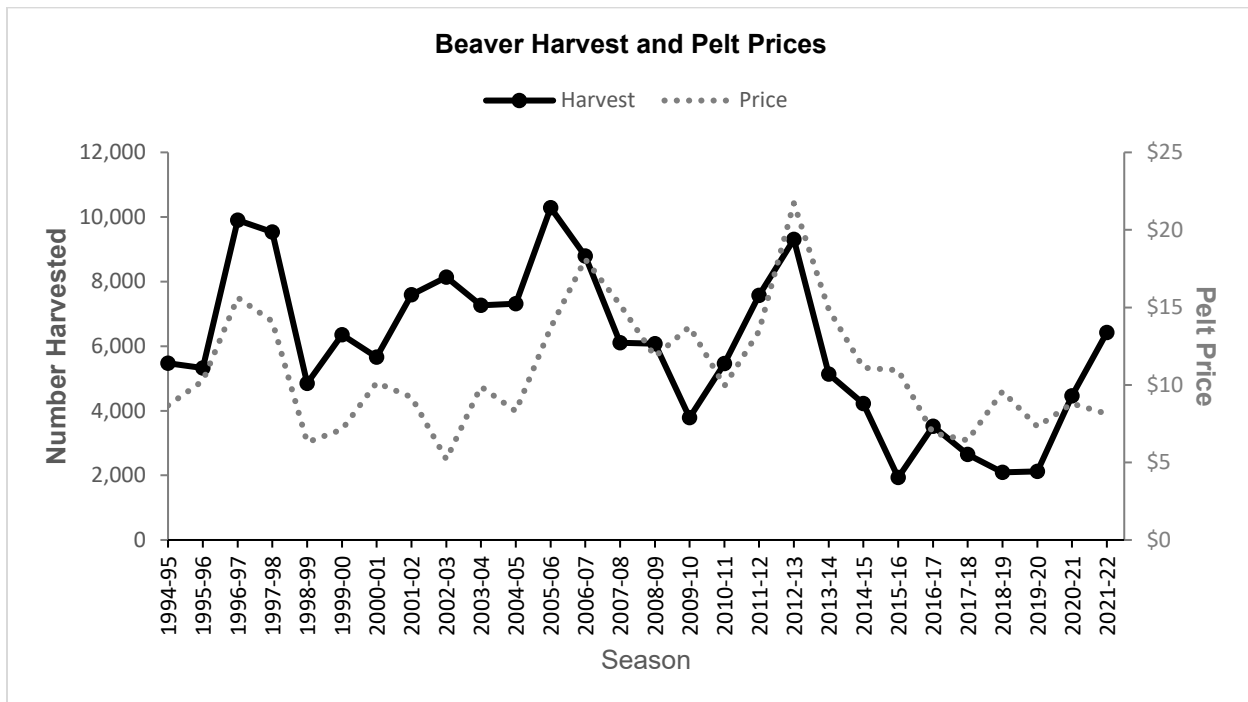


Figure 33. Comparison of Missouri beaver harvest and pelt prices over the last 50 years. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

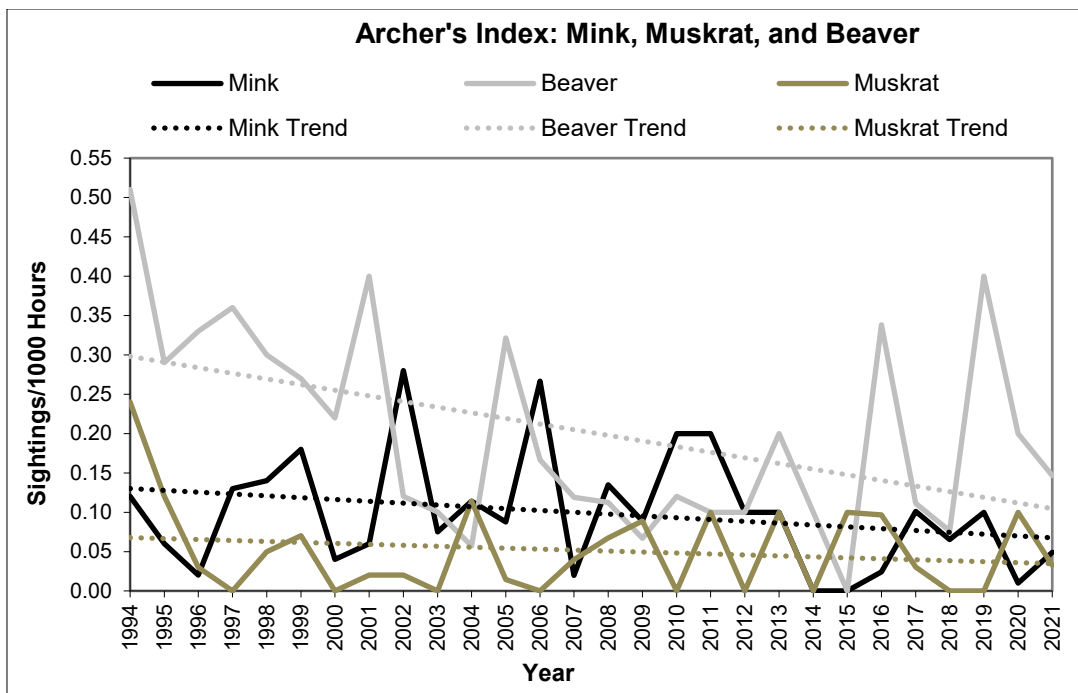


Figure 34. Mink, muskrat, and beaver population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

American Badger Status in Missouri

The American badger is a native, but uncommon, furbearing species in Missouri and is state ranked as a **Vulnerable Species of Conservation Concern** by MDC. American badgers are a fossorial (burrowing animal) species and require habitat where suitable soil is available for digging burrows for both them and for hunting prey. American badgers can be found throughout the state in any of the **8 zoological regions** (Figure 35), but soil most suitable for burrowing mammals occurs primarily in four regions: Western Prairie, Northwest Prairie, Northern Riverbreaks, and Northeast Riverbreaks. Consequently, the bulk of the recorded observations in the Missouri Natural Heritage database occur in these four regions.

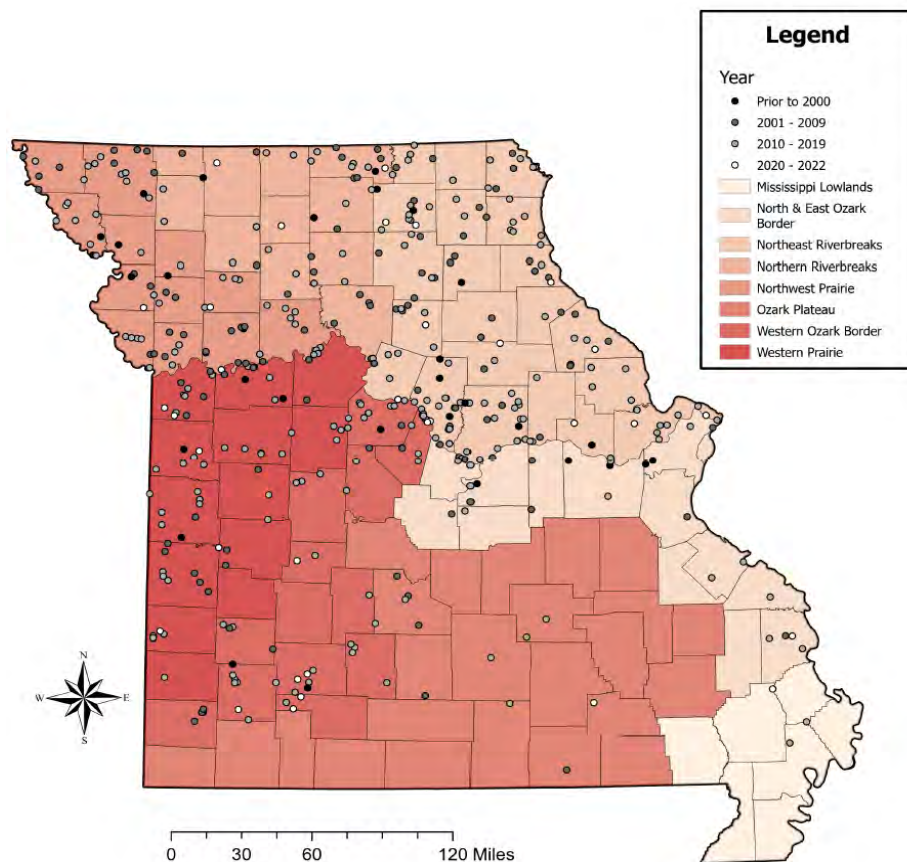


Figure 35. American badger sightings in the Missouri Natural Heritage database range from the 1940s to present and occur in all 8 zoological regions. This includes 5 new sightings in 2022.

Considered a furbearing species in the state of Missouri, American badgers are harvested annually during the trapping season. However, harvest has historically been low compared to other furbearers because American badger pelts are not as desirable and typically sell for lower prices than other, more valuable pelts (Figure 36). Furthermore, most American badger harvest occurs as a result of nuisance animal removal. In recent decades, harvest has declined and likely is a result of several factors. First, grasslands and prairies, where the soil substrate is suitable for burrowing, are primary habitat types for American badgers. As these habitats are converted to intensive agriculture, available habitat for American badgers decreases, mostly due to the loss of prey species in these areas. Second, interest in trapping also has declined and fewer individuals participate in trapping.

To offset the reduced number of observations and low harvest, MDC made a concerted effort to collect and record American badger observations and specimens from citizens (e.g., trappers) and MDC personnel from 2009 through 2011 to better understand the demographics and distribution of American badgers in Missouri. As a result, more than 400 records occur within the Missouri Natural Heritage database allowing the Department to determine where the species is most prevalent in the state. In 2017, MDC once again made a call for American badger observations with the distribution of a flyer to the Missouri Trappers Association, MDC Regional Offices and Nature Centers, and Missouri DNR State Parks (Figure 37). This renewed effort produced 101 new sightings of American badgers across the state, but primarily in the four suitable zoological regions mentioned previously (Figure 35). MDC will continue to collect information about American badgers from citizens and MDC personnel.

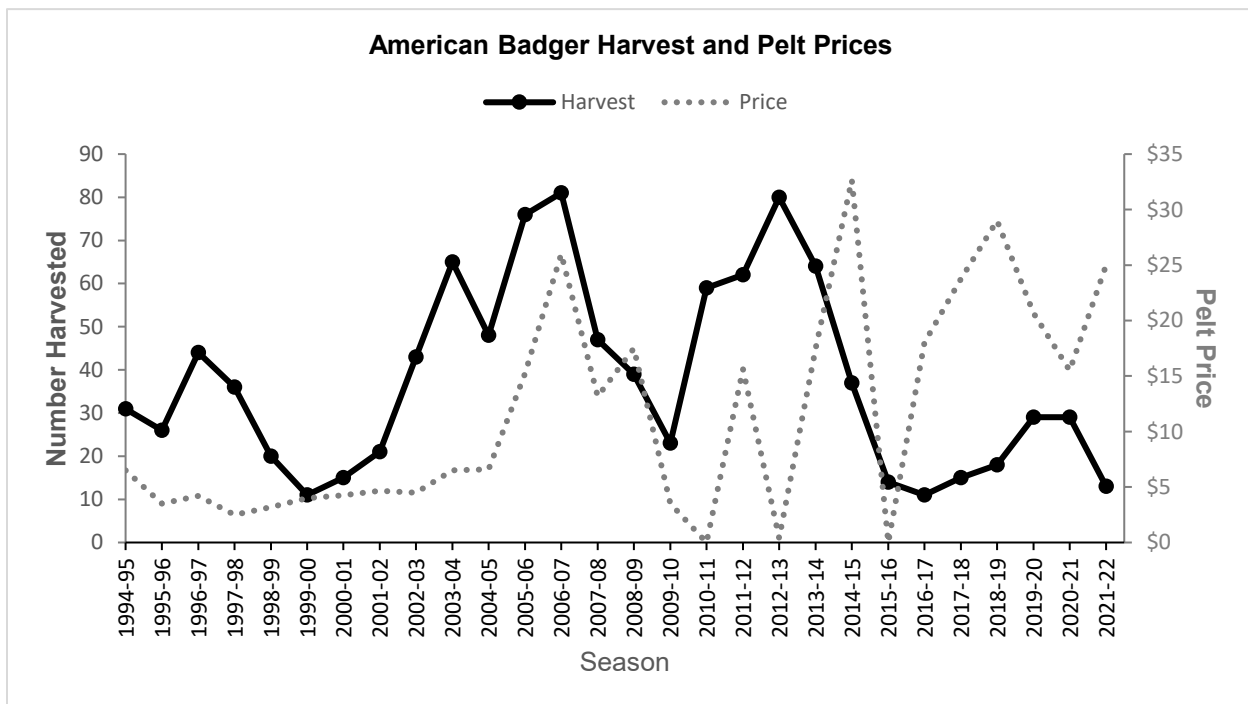






Figure 36. American badger harvest and pelt prices in Missouri since 1994. No sales occurred in 2010-11, 2012-13, and 2015-16.



Have you seen a rare Missouri furbearer?

The Missouri Department of Conservation is taking reports for the following species...

American Badger		<p>Flattened body with short, stocky legs. Face is distinctive with black patches, whitish chin and throat, and a prominent white stripe down the head. Weigh 8 to 20 pounds.</p>	<h2>HOW TO REPORT</h2> <p>MDC needs the following information with report submissions:</p> <ul style="list-style-type: none"> ♦ Date and Time of observation ♦ Number of individuals observed and number of young in group ♦ Location (county and estimated GPS coordinates) ♦ Sex, if known ♦ Status (alive, trapped, road-killed, etc.) ♦ Name, address, phone number, and/or email <p>Report Sightings to:</p> <p>Nathaniel Bowersock <i>Furbearer Biologist</i> <i>Missouri Department of Conservation</i> <i>Central Regional Office</i> <i>3500 East Gans Road</i> <i>Columbia, MO 65201</i> <i>(573) 815-7900 ext. 2903</i> <i>Nathaniel.Bowersock@mdc.mo.gov</i></p>
Spotted Skunk		<p>Distinct white spot in the center of the forehead and in front of each ear. Broken stripes down the body give a "spotted appearance." Weigh 0.5 to 2 pounds.</p>	
Least Weasel		<p>Long, tubular shape with a tail that is 25% of the head-body length. May turn white in the winter, in summer have brown pelts with white feet and underside. Found in northern Missouri and weigh 1 to 3.5 ounces.</p>	
Long-tailed Weasel		<p>Tail is 50% or more of the head-body length. May turn white in the winter, but have brown pelts in the summer with cream-yellow undersides. Found statewide and weigh 3 to 16 ounces.</p>	

Additional Information:

Badger can be legally harvested in Missouri during the established season. Please report any badger sightings, captures or road-kill animals

There is **NO** trapping or hunting season for weasels or spotted skunks. Please report any sightings, photos, or road-kill animals to the Department.

If you accidentally trap a weasel or spotted skunk and the animal is alive, it must be immediately released. Please report the incidental capture. If you accidentally trap a weasel or spotted skunk and the animal is dead, the entire carcass must be turned over to your local conservation agent.

Figure 37. Rare furbearer sightings request flier distributed by Missouri Department of Conservation.

Rare Furbearers of Missouri

Missouri residents are fortunate to reside in a state with abundant natural resources, including wildlife, and an exceptional diversity of furbearing species. As a result, opportunities for observing wildlife, hunting, and trapping also are abundant. Three traditional furbearing species, the eastern spotted skunk (subspecies plains spotted skunk), least weasel, and long-tailed weasel, recently (within the last 3 decades) exhibited declines in population trends and harvest. The Missouri Department of Conservation (MDC) decided to close trapping for those species due to this significant decline.

Spotted Skunk

The subspecies of **eastern spotted skunk** native to Missouri is the plains spotted skunk. This species was once abundant, albeit not as abundant as their striped cousins, and harvest of 30,000 or more individuals each year was common in Missouri. Declines in annual harvest began in the late 1940s as total harvest dropped precipitously from a high point of more than 55,000 to less than 10,000 individuals over a period of 7 years. After another 5 years, annual harvest dipped to less than 1,000 individuals until harvest dropped to less than 10 each year and MDC closed the season for spotted skunks in 1991-92 (Figure 38). Currently, the plains spotted skunk is listed as **state**



Endangered and state ranked as a **critically imperiled Species of Conservation Concern** in Missouri. Records of spotted skunk sightings are maintained in the Missouri Natural Heritage database, which tracks locations of all Missouri species of conservation concern (Figure 39).

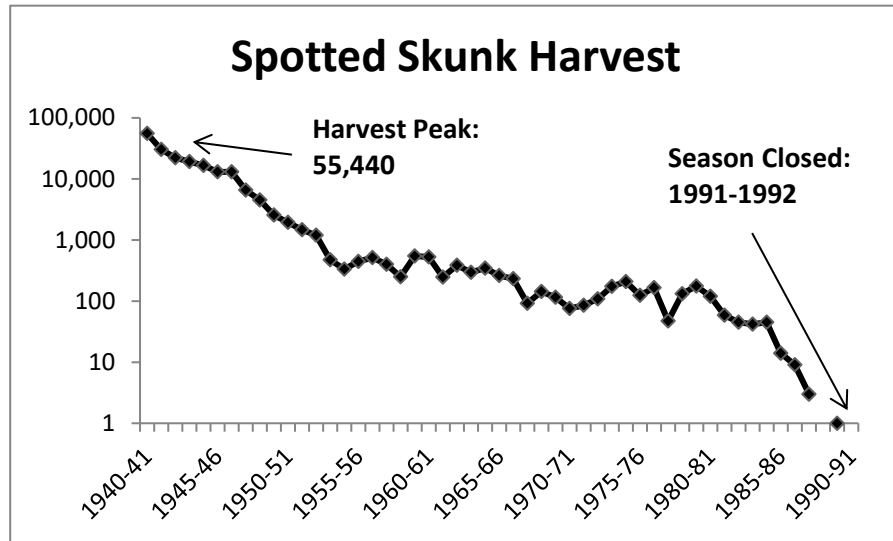


Figure 38. Historic spotted skunk harvest in Missouri from the peak harvest in 1940-1941 to the close of the spotted skunk trapping season in 1991-92.

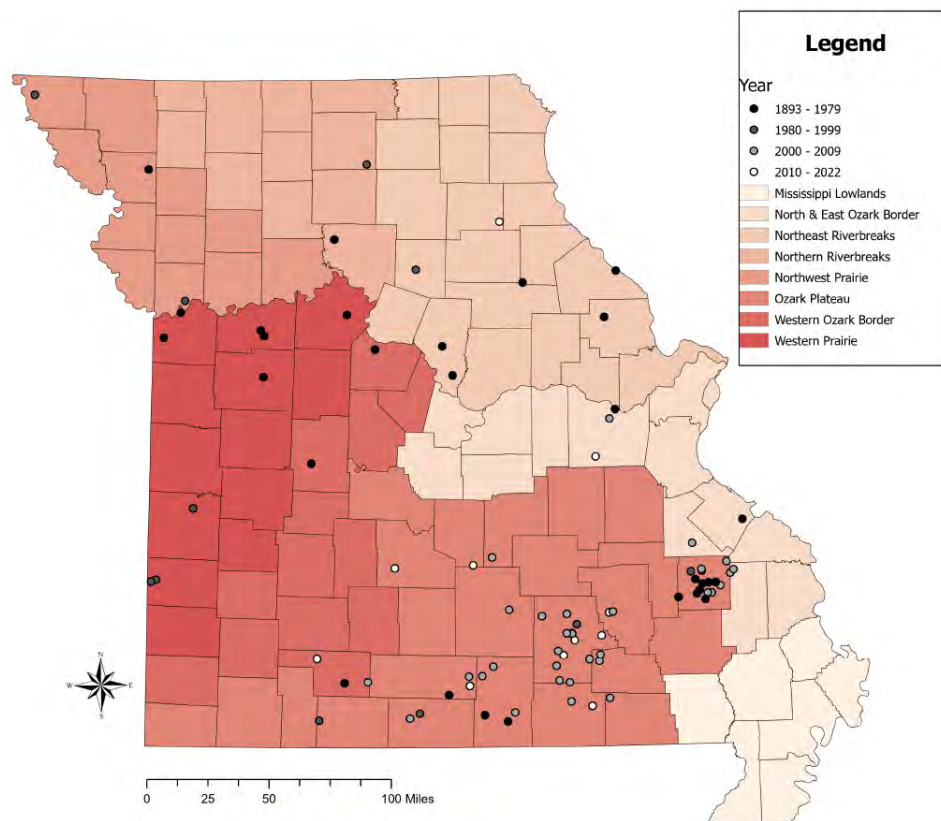


Figure 39. Plains spotted skunk sighting locations from the Missouri Natural Heritage Database.

Least and Long-tailed Weasel

Northern Missouri is the southern extent of the **least weasel's** range; therefore, the species was never widespread in the state. Although traditionally considered a furbearer, Missouri's *Wildlife Code* does not define least weasels as a furbearing or game species. Conversely, **long-tailed weasels** can be found from central Canada into portions of South America and thus, can be found throughout the state of Missouri. Long-tailed weasels are the primary target of weasel trapping efforts in Missouri, but harvest records indicate an overall 'weasel' category suggesting take of both species occurred. Weasels were never a large proportion of the fur harvest in Missouri, but harvest peaked in the mid-1930s before steadily declining until the season was closed in 2000-01 (Figure 40).

Currently, both weasel species are classified as **Species of Conservation Concern** and state-ranked as **Vulnerable**. Like spotted skunks, sightings of both weasel species are maintained in the Missouri Natural Heritage database providing an indication of their distributions in Missouri (Figures 41 and 42).

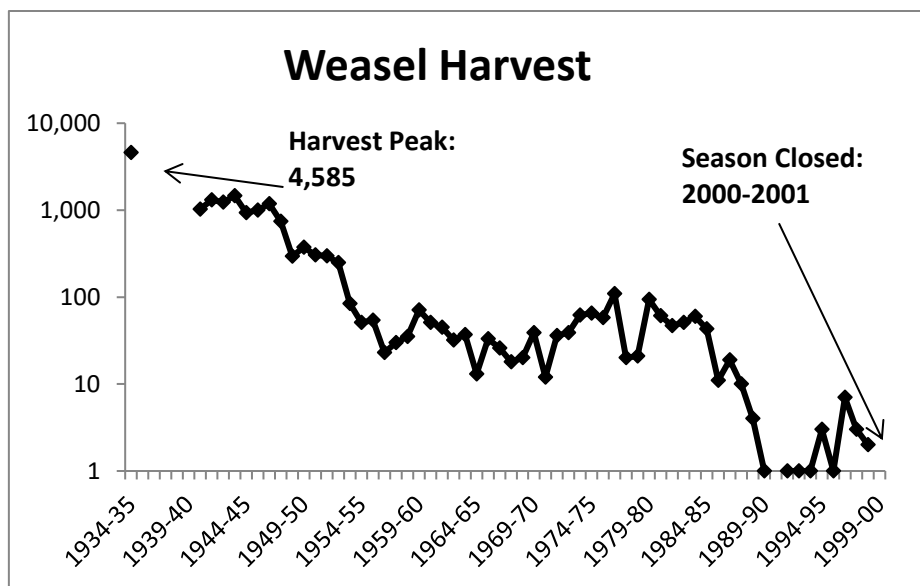


Figure 40. Historic weasel harvest in Missouri from the harvest peak in 1934-35 to the close of the weasel trapping season in 2000-01 with a gap in harvest data from 1935-36 through 1939-40.

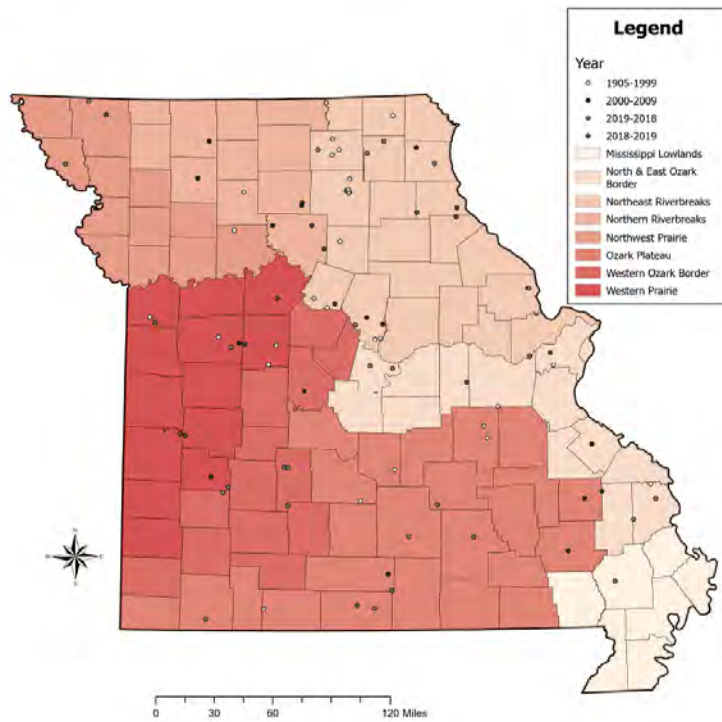


Figure 41. Least weasel sighting locations in the Missouri Natural Heritage database.

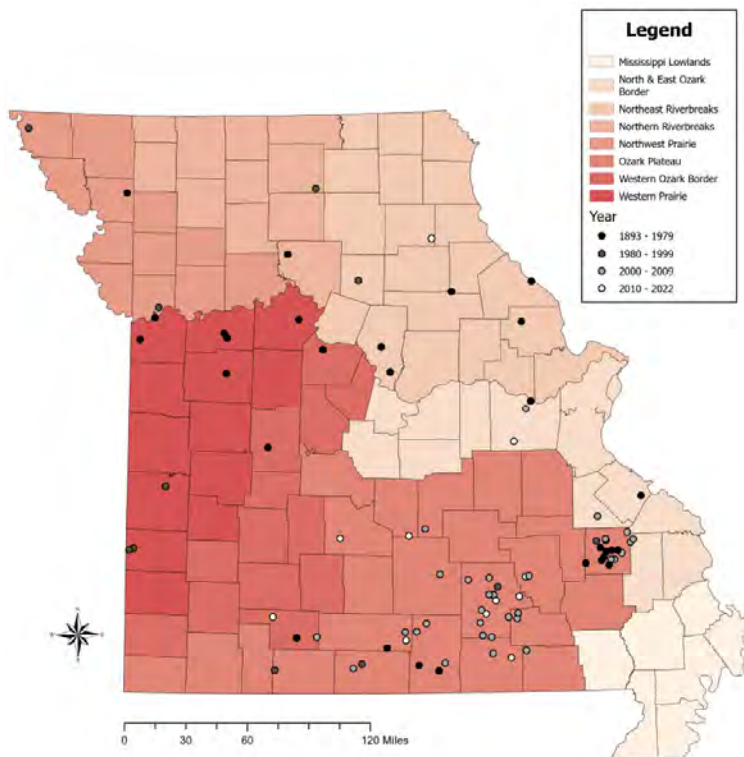


Figure 42. Long-tailed weasel sighting locations in the Missouri Natural Heritage database, including 26 sightings since 2017.

State Furbearer Records

Official furbearer weight records began in 2011. Candidate furbearers must be weighed at MDC's Central Regional Office in Columbia for or verified by MDC staff on a certified scale. Only **One new** record-sized furbearer was harvested in the 2022-2023 hunting and trapping seasons (Table 4). Couper Simmons set the record for Raccoon at 35 lbs. Please note that some larger weights may have occurred prior to official record keeping in 2011 but cannot be considered record weights at present.



Table 4. Current record-holders and weights of record furbearing species. * Indicates new record.

Current Record Furbearers						
Species	Sex	Date Taken	County Taken	Weight (lbs.)	Ounces (oz.)	Hunter/Trapper
Badger	M	12/17/2014	Perry	28	14.4	Corey Robinson
Badger	M	11/21/2017	Randolph	28	14.4	Glen and Kyle Fessler
Beaver	F	3/8/2020	Chariton	81	0	Clay Creech
Bobcat	M	12/22/2019	Worth	50	0	Harold Owens
Coyote	M	1/13/2020	Maries	51.5	0	Bradley Deeken
Gray Fox	M	1/2/2016	Marion	12	11	Lance Hudson & Bobby Gruenloh
Mink	M	1/19/2013	Ralls	5	3.2	Jeff Thompson
Muskrat	M	1/29/2020	Cass	4	5.3	Dennis Hull
Nutria	M	1/31/2021	Stoddard	19	0	Spencer Spears
Opossum	M	12/18/2016	Lincoln	16	2.6	Jacob Doll
Raccoon	M	12/11/2022	Worth	35	0	Couper and Hunter Simmons
Red Fox	F	12/29/2018	Girardeau	13	5.7	Jake Partridge
River Otter	M	2/4/2019	Ozark	32	11.2	Sam Day
Striped Skunk	M	12/4/2018	Moniteau	9	14	Ethan Starr

Appendix A

Missouri hunter hours and furbearer population indices based on archer's diaries, 1983 to 2021.

YEAR	Hunter Hours	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
1983	55,374	20.0	6.5	5.1	1.7	23.8	12.6	5.0	0.7	0.3	0.5	0.1	0.1	0.0	0.0
1984	32,746	18.8	6.8	3.1	1.2	16.9	6.4	3.5	0.3	0.3	0.1	0.0	0.1	0.0	0.0
1985	30,990	20.1	5.3	2.8	1.5	15.4	8.6	4.2	0.5	0.4	0.4	0.1	0.1	0.1	0.0
1986	51,727	23.5	5.7	2.8	1.5	15.3	6.9	3.5	0.3	0.4	0.0	0.0	0.0	0.0	0.0
1987	57,457	23.5	4.5	2.5	2.0	23.3	10.1	3.0	0.3	0.7	0.2	0.1	0.1	0.1	0.0
1988	84,497	22.4	4.7	2.4	1.7	16.7	4.8	2.7	0.3	0.6	0.1	0.0	0.1	0.1	0.0
1989	72,992	21.1	5.1	2.4	1.8	19.6	5.6	3.5	0.1	0.6	0.1	0.0	0.2	0.1	0.0
1990	72,227	23.6	4.9	2.3	2.9	24.0	7.2	3.5	0.2	0.4	0.1	0.0	0.1	0.1	0.0
1991	64,434	26.1	4.7	3.0	3.3	30.5	11.7	4.0	0.3	0.3	0.1	0.0	0.1	0.0	0.1
1992	64,452	22.5	4.7	2.3	2.9	24.3	8.9	2.8	0.6	0.7	0.1	0.0	0.1	0.3	0.0
1993	53,857	19.7	4.2	2.1	3.2	28.1	7.7	3.7	0.2	0.5	0.2	0.0	0.1	0.3	0.0
1994	49,102	21.0	5.1	2.0	3.4	32.0	7.6	3.2	0.1	0.5	0.2	0.0	0.2	0.2	0.0
1995	66,106	22.3	4.6	2.1	3.8	36.5	9.6	3.6	0.1	0.3	0.1	0.0	0.1	0.3	0.1
1996	60,077	19.6	4.5	1.8	4.1	29.7	6.6	2.7	0.0	0.3	0.0	0.0	0.1	0.5	0.0
1997	47,816	18.0	4.0	2.0	4.5	31.2	7.4	2.7	0.1	0.4	0.0	0.0	0.1	0.6	0.0
1998	43,152	20.8	4.1	2.4	4.4	33.0	10.6	4.2	0.1	0.3	0.1	0.0	0.2	0.3	0.1
1999	44,012	29.2	3.7	2.2	4.8	45.9	12.5	4.0	0.2	0.3	0.1	-	0.1	0.5	-
2000	50,795	20.0	3.7	2.0	4.9	32.1	8.1	3.3	0.0	0.2	0.0	0.0	0.1	0.3	0.0
2001	47,023	19.5	3.6	2.1	5.2	38.7	8.2	4.7	0.1	0.4	0.0	0.0	0.1	0.3	0.0
2002	42,826	24.6	3.8	1.5	7.9	42.6	14.4	5.6	0.3	0.1	0.0	0.0	0.1	0.8	0.1
2003	39,964	20.5	2.7	1.5	6.0	37.9	7.2	3.2	0.1	0.1	0.0	0.0	0.2	0.6	0.0
2004	35,071	17.6	2.8	1.1	4.7	37.3	7.9	2.6	0.1	0.1	0.1	0.0	0.1	1.2	0.0
2005	68,440	21.2	2.8	1.3	5.6	37.3	8.5	2.5	0.1	0.3	0.0	0.0	0.1	0.5	0.0
2006	60,040	22.2	3.2	1.3	6.9	54.4	14.4	3.8	0.3	0.2	0.0	0.0	0.1	0.5	0.0
2007	50,390	19.8	3.0	1.5	5.2	40.0	9.4	4.0	0.0	0.1	0.0	0.0	0.1	0.4	0.0
2008	44,471	16.3	2.6	1.2	5.0	41.5	7.8	3.7	0.1	0.1	0.1	0.0	0.4	0.3	0.0
2009	44,919	20.6	2.6	1.2	4.9	42.0	12.4	4.4	0.1	0.1	0.1	0.0	0.2	1.2	0.1
2010	42,907	27.1	2.1	1.0	5.9	60.6	12.9	3.1	0.2	0.1	0.0	0.0	0.2	0.7	0.0
2011	41,370	26.1	2.7	1.1	6.6	70.1	16.6	4.6	0.2	0.1	0.1	0.0	0.2	0.9	0.0
2012	63,621	24.4	3.6	1.4	5.3	45.8	7.1	5.6	0.1	0.1	0.0	0.0	0.3	1.1	0.0

YEAR	Hunter Hours	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
2013	68,674	16.2	2.1	1.4	4.0	33.3	5.7	2.9	0.1	0.2	0.1	0.0	0.1	0.6	0.1
2014	60,560	20.3	2.5	1.3	3.4	37.5	5.8	2.8	0.0	0.1	0.0	0.0	0.3	0.3	0.1
2015	58,203	26.2	2.5	2.0	5.0	55.2	13.4	3.8	0.0	0.0	0.1	0.0	0.3	0.6	0.1
2016	41,409	23.3	2.9	1.5	4.5	36.6	10.2	4.4	0.0	0.3	0.1	-	0.2	0.2	0.2
2017	98,898	24.3	3.4	2.9	5.0	48.5	11.8	2.5	0.1	0.1	0.0	-	0.2	0.6	0.1
2018	91,936	25.4	3.6	1.8	4.8	35.0	8.4	2.1	0.1	0.1	-	0.0	0.2	0.8	0.2
2019	87,821	25.2	3.3	3.9	5.4	47.6	13.3	2.3	0.1	0.4	0.0	-	0.1	0.6	0.1
2020	80,657	22.8	2	.07	7.2	49.3	13.0	3.1	0.1	0.2	0.1	0	0.1	1.1	0.3
2021	61,315	23.2	1.5	2.8	4.8	41.3	7.2	2.0	0.0	0.1	0.0	0.0	0.0	0.7	0.4

Appendix B.

Missouri furbearer species population indices (sightings/1,000 hours) by county derived from the MDC Bowhunter Observation Survey in 2021.

County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Adair	19	0	0	4	25	4	1	0	0	0	0	0	0	0
Andrew	9	3	0	6	38	13	0	0	0	0	0	0	0	0
Atchison	34	0	0	0	190	34	0	0	0	0	0	11	0	0
Audrain	23	0	14	0	78	25	2	0	0	0	0	0	0	0
Barry	17	21	2	19	38	0	4	0	0	0	0	0	0	0
Barton	57	0	0	0	83	5	0	0	0	0	0	0	0	0
Bates	56	0	0	28	0	0	0	0	0	0	0	0	0	0
Benton	34	0	0	2	33	8	0	0	0	0	0	0	0	0
Bollinger	14	0	0	2	22	1	0	0	0	0	0	0	0	0
Boone	27	0	0	1	31	7	2	0	0	0	0	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Buchanan	64	0	0	9	120	4	0	0	0	0	0	0	0	0
Butler	16	0	0	0	31	16	0	0	0	0	0	0	0	0
Caldwell	19	0	0	11	50	8	0	0	0	0	0	0	0	0
Callaway	12	1	8	5	34	7	1	0	0	0	0	0	0	0
Camden	20	5	0	9	43	2	0	0	0	0	0	0	0	0
Cape Girardeau	13	0	1	4	37	7	1	0	0	0	0	0	0	0
Carroll	27	12	2	5	95	2	2	0	0	0	0	0	0	0
Carter	17	0	0	0	20	0	0	0	0	0	0	0	0	0
Cass	30	2	0	9	58	5	2	0	0	0	0	0	0	0
Cedar	46	3	5	3	65	8	11	0	0	0	0	0	0	0
Chariton	88	2	0	0	117	10	0	0	0	0	0	0	0	0
Christian	31	0	0	6	6	6	0	0	6	0	0	0	0	0
Clark	22	0	0	0	63	2	2	0	0	0	0	0	0	0
Clay	45	3	0	3	31	11	3	0	0	0	0	0	0	0
Clinton	39	0	0	20	78	7	0	0	0	0	0	0	0	0
Cole	36	0	2	69	14	7	0	0	0	0	0	0	0	0
Cooper	67	0	0	2	83	7	0	0	0	0	7	0	0	0
Crawford	10	7	4	5	3	5	3	0	0	1	0	0	0	0
Dade	22	0	5	16	0	11	0	0	0	0	0	0	0	0
Dallas	15	0	0	4	11	4	0	0	0	0	0	0	0	0
Daviess	28	0	0	9	7	0	0	0	0	0	0	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Dekalb	100	0	0	9	52	4	9	0	0	0	0	0	0	0
Dent	20	13	73	8	27	0	0	0	0	0	0	0	0	0
Douglas	9	0	0	0	0	0	0	0	0	0	0	0	0	0
Dunklin	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Franklin	14	0	0	2	20	8	1	1	0	0	0	0	0	0
Gasconade	8	0	1	8	27	8	4	1	2	0	2	1	0	0
Gentry	250	5	0	0	114	37	0	0	0	0	0	0	0	0
Greene	16	3	5	8	34	8	3	0	0	0	0	0	0	0
Grundy	153	0	0	0	54	0	0	0	0	0	0	0	0	0
Harrison	14	0	0	5	44	3	5	0	0	0	0	0	0	0
Henry	48	6	0	15	56	15	3	0	0	0	0	0	0	0
Hickory	5	2	2	7	2	5	2	0	0	0	0	0	0	0
Holt	0	0	0	0	12	0	0	0	0	0	0	0	0	0
Howard	34	2	0	2	43	13	2	0	0	0	2	0	0	0
Howell	7	0	0	1	0	0	1	0	0	0	0	0	0	0
Iron	17	3	3	10	3	0	0	0	0	0	0	0	0	40
Jackson	10	10	0	5	44	2	0	0	0	0	0	0	0	0
Jasper	18	3	3	0	76	0	0	0	0	0	0	0	0	0
Jefferson	13	2	1	2	20	3	5	0	0	0	0	0	0	0
Johnson	31	2	0	6	46	20	1	0	0	0	1	0	0	0
Knox	272	24	0	0	12	125	37	3	0	0	0	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Laclede	30	0	3	10	38	18	5	5	0	0	0	0	0	3
Lafayette	44	3	66	13	0	0	0	0	0	0	0	0	0	0
Lawrence	45	0	0	0	52	0	0	0	0	0	0	0	0	0
Lewis	15	0	0	4	26	0	0	0	0	0	2	0	0	0
Lincoln	25	1	2	1	22	12	2	0	2	0	2	0	0	0
Linn	27	0	0	21	51	7	3	0	0	0	0	0	0	0
Livingston	20	0	0	0	62	3	3	0	0	0	0	0	0	0
McDonald	11	0	0	0	17	0	0	0	0	0	0	0	0	0
Macon	18	2	0	4	88	10	1	0	0	0	0	0	0	0
Madison	9	0	0	2	11	0	0	0	0	0	0	0	0	0
Maries	28	0	4	4	22	4	2	0	0	0	0	0	0	0
Marion	34	3	0	3	49	19	3	0	0	0	0	0	0	0
Mercer	30	5	0	28	23	9	0	0	0	0	0	0	0	0
Miller	10	0	0	0	19	10	10	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moniteau	17	0	0	11	68	23	6	0	0	0	0	0	0	0
Monroe	50	0	0	2	74	9	4	0	0	0	0	0	0	0
Montgomery	23	3	1	4	53	11	1	0	0	0	0	0	0	0
Morgan	10	0	0	3	32	0	0	0	0	0	0	0	0	0
New Madrid	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Newton	34	0	0	4	23	9	0	0	0	0	0	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Nodaway	24	0	0	4	23	9	0	0	0	0	0	0	0	0
Oregon	12	0	0	2	27	2	2	0	0	0	0	0	0	0
Osage	11	0	2	0	20	4	4	0	0	0	0	0	0	0
Ozark	17	0	0	12	8	2	2	0	0	0	0	0	0	0
Pemiscot	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perry	9	0	1	9	43	0	0	0	0	0	0	0	0	0
Pettis	10	0	0	2	85	17	2	0	0	0	0	0	0	0
Phelps	25	0	1	1	22	7	4	0	0	0	0	0	0	0
Pike	22	0	0	3	38	16	1	0	0	0	0	0	0	0
Platte	35	2	2	14	88	16	1	0	0	0	7	0	0	0
Polk	38	0	0	6	32	6	3	0	0	0	0	0	0	0
Pulaski	2	0	0	2	15	5	0	0	0	0	2	0	0	0
Putnam	1	0	2	25	2	2	0	0	0	0	2	0	0	0
Ralls	21	2	0	5	29	7	1	0	0	0	0	0	0	0
Randolph	15	2	0	5	22	5	0	0	0	0	0	0	0	0
Ray	21	3	2	2	63	14	2	0	0	0	0	0	0	0
Reynolds	5	0	0	3	81	0	0	0	0	0	0	0	0	25
Ripley	5	0	0	2	0	2	0	0	0	0	0	0	0	0
St. Charles	19	3	0	10	43	8	2	0	0	0	0	0	0	0
St. Clair	12	0	0	5	48	2	2	0	0	0	2	0	0	0
St. Francois	48	2	0	2	6	10	2	0	0	0	0	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Ste. Genevieve	34	2	0	6	25	4	17	0	0	0	0	0	0	0
St. Louis	12	0	9	1	9	3	3	0	0	0	0	0	0	0
Saline	67	0	0	2	105	6	0	0	0	0	0	0	0	0
Schuyler	28	2	0	3	63	3	0	0	0	0	0	0	0	0
Scotland	9	0	2	5	94	10	0	0	0	0	0	0	0	0
Scott	41	0	0	0	20	20	0	0	0	0	0	0	0	0
Shannon	0	0	0	6	6	3	3	0	0	0	0	0	0	0
Shelby	21	0	0	7	104	1	3	0	3	0	0	0	0	0
Stoddard	3	0	3	6	29	0	0	0	0	0	0	0	0	0
Stone	7	0	0	0	7	7	0	0	0	0	0	0	0	0
Sullivan	28	0	0	8	67	16	0	0	0	0	12	0	0	0
Taney	9	3	3	12	9	3	0	0	0	0	0	0	0	0
Texas	15	1	62	5	13	7	1	0	0	1	1	0	0	0
Vernon	18	0	0	5	61	8	0	0	0	0	20	0	0	0
Warren	9	1	0	1	15	4	3	1	0	0	1	0	0	1
Washington	15	0	2	6	8	0	8	0	0	0	0	0	0	0
Wayne	12	1	1	5	16	0	0	0	0	0	0	0	0	0
Webster	24	6	2	9	59	6	0	0	2	0	0	0	0	2
Worth	45	0	0	4	53	0	8	0	0	0	0	0	0	0
Wright	30	0	0	0	7	0	0	0	0	0	0	0	0	0
Statewide Index	23.2	1.5	2.8	4.8	41.3	7.2	2.0	0.05	0.1	0.0	0.0	0.0	0.7	0.4

